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An Open Space Policy Plan was developed for the State of New Jersey to provide an adequate blueprint for preserving open space and creating a desirable recreational environment in the State in anticipation of expected increases in population and urbanization. Consideration was given to local, county, State, and Federal responsibilities in the development of an open space statewide program. Emphasis was placed on the priority for open space planning and acquisition in the northern half of the State because of an already existing deficit in open space acreage in that area. Plans for both the 10 and 20 million levels of population were considered. In effect, the Open Space Policy Plan was designed to make future open space easily accessible by locating it in close proximity to potential and already existing urbanizing areas of the State. (VM)

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NEW JERSEY
OPEN SPACE POLICY PLAN

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DEPARTMENT OF COMMUNITY AFFAIRS   DIVISION OF STATE AND REGIONAL PLANNING

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
PAUL N. YLVISAKER, COMMISSIONER

January, 1968

We are pleased to present this report as a part of the expanded Statewide Planning Program. This is the first in a series of reports concerned with the formulation of a comprehensive statewide development plan and long range development policies for the State.

This report suggests policies with respect to levels of governmental responsibility, standards, and location of open space to serve the needs of the people of the State at the ten million population level (or over the next 25 or 30 years). While land is the primary subject of this report, underlying all of the studies is a concern for the people of the State. The open space plan must be concerned primarily with the needs of New Jersey's expanding population, whether it be for active or passive recreation or for the conservation of resources such as water and wildlife. We are particularly concerned with the relationship of open space to densely populated areas, since one of the primary functions of the State with respect to open space must be to provide all people with a wide range of recreational experiences, in locations which are readily accessible, and at prices which the less affluent can afford.

In addition to a concern with recreation, the plan also recognizes the continuing role which resources must play in the State's long range development. We are sure that the best use of our scarce land resources will be made by combining recreation activities with conservation and resource development programs. Through proper planning these diverse interests can be made compatible.

A further step in the comprehensive planning process is the development of an outdoor recreation plan which will discuss in detail the development programs which must be carried out in order for this open space land to meet the recreation needs of the people. Work on this plan is nearing completion and has been dovetailed with the open space plan.

This report is presented in the hope of stimulating further thinking and discussion, as well as providing a basis for immediate action in acquisition and development of our open space resources. Your comments and appraisal of the work presented are invited and encouraged.

Sincerely,

Paul N. Ylvisaker
Commissioner

ERRATA

for

New Jersey Open Space Policy Plan

Page	Column	Line	Correction
4	2	7	125,000 to 120,000
17	2	22	with to within
45	Table VI		
	Megalopolitan		
	Acres		110,567 to 110,576
	Excess or Deficits		-14,456 to +14,456
47	1	4	Megapolitan to Megalopolitan
51	1	33	17,397 to 17,394
51	2	33	35,190 to 36,860
52	1	15 & 16	172,800 to 174,824
52	1	35	to read: When the population standard for the State is applied to New Jersey's projected population at the 10 million level, some 200,000 acres in open space are needed.
57	2	17	impowered to empowered
101	Table XIV		
	Acres Approved	Total	214,922 to 215,940
	Acres Purchased	Total	39,268 to 39,269
	Table XV		
	Active Projects	Total	16,764 to 16,758
103	2	38	125,000 to 120,000

NEW JERSEY
OPEN SPACE POLICY PLAN

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1967

PREFACE

In his 1964 Annual Message the Honorable Richard J. Hughes stated:

> *In a world as complex as ours, we have come to realize that a beneficial and prosperous future is not ours by right; nor can it be expected to occur spontaneously. If it is to occur at all, it will be the result of careful planning and preparation and considerable hard work.*

These remarks concisely indicate one of the most critical challenges ever confronted by government. That challenge is particularly acute in open space and recreation planning; especially in New Jersey, where competition for development of the land has historically relegated open space to locations far from its prospective users.

New Jersey is a small state in which land is becoming increasingly scarce. In order to provide a total living environment for its citizens, the various levels of government in the State must begin to act now for the time to act is growing short.

Open space planning will add a vital element — an element that will make a major contribution to the total quality of our lives.

The Division of State and Regional Planning operates under a legislative mandate to promote the orderly development of the State's physical assets by:

1) *assembling and analyzing pertinent facts regarding existing developmental conditions and trends;*

2) *preparing and maintaining a comprehensive guide plan and long term developmental program for the future improvement and development of the State;*

3) *undertaking the task of achieving fuller coordination of the development activities of the several State departments; and*

4) *stimulating, assisting, and coordinating local, county, and regional planning activities.*

In fulfillment of this mandate, a series of planning studies have been undertaken leading to the formulation of a State Development Plan.

The purpose of this report, which is part of the overall Statewide Planning Program, is to look at the existing open space situation in New Jersey and formulate policies, proposals and principles that will encourage and guide the open space planning, acquisition and development in the State to that time when the State's population reaches ten million persons (circa 1985-90).

The citizens of New Jersey have already exhibited their desire to preserve and protect the State's natural environment when, in 1960, they authorized (by referendum) the creation of a $60,000,000 acquisition program known as Green Acres. It must be assumed, therefore, that the people of this State have committed themselves to the preservation of a natural heritage for its present and future citizens. It is in response to this commitment that the following report is presented.

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*Mr. Klein has since left the State.

The Planning Staff also wishes to express their appreciation to the following persons who attended meetings of the Subcommittee as alternative representatives of their agencies:

George P. Howard, *Bureau of Wildlife Management*
Joseph F. Slavin, *Division on Aging*
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SUMMARY

As a result of the rapid urbanization of New Jersey and increased leisure time, the problems of preserving open space and providing outdoor recreational facilities in the State will play an increasingly important role in creating a desirable environment for future growth. Out of the growing recognition of the nature of these problems there exists a widespread acceptance that they will have to be solved by the various levels of government utilizing the instruments which are at their disposal such as legislation to preserve open space and methods of financing acquisitions in advance of immediate need. Both the maximum use of these tools and the comprehensive approach of the planning process are needed in order to adequately meet the increasing leisure time and recreational demands of the public and relate open space standards to basic statewide development goals.

Consideration must be given to the various functions of open space to meet the needs of the present State population and to provide for a desirable environment for its future citizens. Provision of recreational areas, preservation of natural resources and unique sites, creation of breaks in the dense urban areas and the shaping of urban growth are functions of open space which should be included in a comprehensive plan to assure that each type of open space is made available.

The "Open Space Policy Study Map" attempts to incorporate all proposed and potential open space lands into a Statewide scheme demonstrating many basic open space principles. However, this ideal plan must reflect practical considerations such as existing urban development and the amount of funds presently available to purchase open space. Therefore, more emphasis should be placed on the multiple-purpose use of both water-oriented and land-based factors to provide a unified pattern of open space which will shape and direct growth and fulfill the recreational needs of the State's inhabitants.

The responsibility for assuring an adequate amount of open space to meet both current and anticipated needs rests primarily with the respective levels of government. The public's interest and welfare should be foremost in determining the quantity and kind of recreational and open space facilities to be provided by each level of government, and the relationship of these facilities to other forms of land use.

At the local level, provisions should be made for relatively small intensively used parcels within easy access to those served. County facilities should be located within easy access by car or public transportation with an emphasis on larger scenic sites such as reservoir and natural resource areas. The State should seek to provide a well distributed and accessible system of parks and open space, including unique scenic, historic and geologic sites and recreational facilities of statewide significance.

At the Federal level the primary responsibility should be one of maintaining a recreational and open space system which embraces areas and sites of national interest and concern. A secondary responsibility should be the provision of regional parks for large urban concentrations and in cooperating with the other levels of government to help fulfill their open space needs.

The two types of standards that can be effectively used in determining how much open space functional-political jurisdictions should strive to acquire and maintain are the acres per 1,000 persons standard and the standard used to create and maintain a balanced land use pattern of development.

Even the most cursory analysis would indicate that the highest priority for obtaining open space at all the functional levels must be assigned to the northern half of the State. Not only are present deficits greater in the north, but, assuming the continuation of present trends, these deficits will mount at a faster rate in the urban north than in the southern part of the State. Potential resources are disappearing in the urbanized areas at a very rapid pace.

The 1960 deficit in open space acreage aggregated for all levels in the northern section of New Jersey amounts to 104, 280 acres while the south has a present excess of 82,020 acres. From 1960 to the 20 million level of population about 500,000 acres of land will be needed to fulfill the minimum open space and recreational needs of these levels in northern New Jersey. The acreage requirement for the south at this population level will approach a minimum of 300,000 acres of land.

This is not to say, however, that open space planning and acquisition should cease in southern New Jersey. With the possible exception of open space at the State functional level, southern New Jersey is also deficit at a time when its population is increasing at a steady rate. In fact, when the State's population reaches 10 million persons, the southern portion will contain approximately twice as many people as it had in 1960. County and municipal acquisitions in this area have lagged behind those of the north and, therefore, should begin acquiring land now.

Generally speaking, New Jersey's supply of open space is not sufficient to meet either its present or future demands. The Green Acres program has been a powerful force in providing the initiative for acquiring open space in New Jersey. It is hoped that the momentum of that undertaking will be adequate to influence all political jurisdictions to establish definitive policies and programs for acquiring and preserving open space in accordance with the need and in a manner which will create a desirable living environment.

There would seem to be numerous methods of preserving open space at various governmental levels in New Jersey. However, not many of these techniques have been employed, as is evidenced by the fact that virtually all of the open space in New Jersey has been obtained through either acquistion of title or gift. In all probability these will continue to serve as the primary means of preserving open space until new methods are tested. New Jersey planning laws do not clearly indicate adequate ways of achieving orderly development of open space. Imaginative local governments are using legal tools that were intended to control other problems in order to preserve open space. An example is the road drainage laws for county roads that have been used as a tool to prevent houses from having their driveways on county roads. The result is a strip of green open land along some county roads. Another example is the use of vector control regulations, such as mosquito controls, to force developers to dedicate stream valleys to local government. The result is many narrow strips of green crossing the county.

Before there can be a definite piece of legislation to clear the way for planning tools to solve the problems caused by local confusion, there must be a better understanding of planning. Inherent in the ability to gain new legislation is the support of the public; support is often readily granted when the issues become apparent and critical. This creates a situation where the planner is always running to catch up. The ideal situation for the planner is to be able to forsee factors in the society and give direction to the events that will shape the future. Open space is one of the many factors that will make life in New Jersey more desirable or less so in a direct relationship.

New techniques are being studied to give New Jersey's governmental jurisdictions tools to protect a portion of our remaining undeveloped land. The new techniques are generally of two types. One combines different existing methods to overcome the ineffectiveness or high costs of a single method. A second type of new techniques calls for legislation to create new tools. Good promise is shown by these new techniques but they will have to be tested for the desired results. Study should be promoted in both directions.

The Department of Conservation and Economic Development of the State of New Jersey has numerous powers which can be used for open space procurement. The Department may acquire land or rights in land through purchase, gift, or by eminent domain when the land is to be used for a State park or forest, or to be maintained as a watershed or a site of historic interest. It may accept land from the New Jersey Highway Department and develop it for roadside parks or rest areas. It is empowered to acquire fresh water lakes, lands surrounding them and rights in land leading to the lake areas.

New Jersey county improvement authorities may buy, lease or condemn lands or obtain easements in land for recreational use. They are empowered to issue bonds to pay for these acquisitions.

New Jersey municipalities also have broad powers which can be used in the procurement of open space. They may buy, condemn, or accept as gifts land or water or rights in land or water, either inside or outside their municipal boundaries, if the open space so obtained is to be used for public recreation. They are also empowered to acquire land for public plazas, to preserve scenery or to build parks and parkways.

The advantage in determining how open space needs can be met by the various levels of government in the State in an orderly long-range open space system is to provide the public with a complete range of facilities at proper locations while at the same time maximizing natural and fiscal resources and providing for the wise and judicious use of land. It is likely that a minimum of 20% of the State's land in public open space will satisfy the needs of the 20 million level of population at the Horizon. The Horizon, or long-range goals and objectives for the future growth of the State, consists of Development Alternatives which will test the feasibility and desirability of basic land use patterns. Associated with the Development Alternatives are the basic Open Space Policy Concepts which are to provide a more comprehensive basis for the selection of an over-all open space policy plan and to serve as an input to the final refinement of the Long Range State Development Plan. The Expediency Concept depends on the availability of money and land, therefore, it lacks a long range look at the total needs for an extensive geographical area. The purpose of the Natural Features Concept is to preserve areas which are largely in their natural state. The weakness of this concept is that the open space system would be located entirely on undeveloped land in the outlying sectors of the State thereby limiting the extent to which open space could be used to shape development. The Design Concept and its alternative uses are concerned with shaping urban development patterns and with providing facilities in close proximity to those whom it will serve.

A combination of many of the elements of each of the Open Space Concepts is necessary for the creation of a long-range open space system to meet the needs of the State's Horizon population of 20 million.

Finally, the formulation of certain common principles stemming from the Open Space Concepts have been established and can aid in the task of acquiring open space lands in order to serve a comprehensive open space system for both the 10 and 20 million levels of population.

As a result of the severe development pressures in the State, especially in the Critical Area, there is an urgent need to provide open space sites that meet both quantitatively and qualitatively the open space requirements for the 10 million level of population. The Open Space Policy Plan attempts to offer a comprehensive approach to meet these requirements.

The Open Space Policy Plan is designed to make open space easily accessible to the people by locating it in relatively close proximity to the urban and urbanizing areas of the State. It is also designed as a first step to permit the maximum use of open space by directing and defining future development. Included in the Plan are areas important to the protection of our natural resources, public sites of low intensity use and areas important for their natural beauty and historic interest.

Through the efforts of the State Green Acres Land Acquisition Program and the Federal Delaware Water Gap National Recreation Area project, total open space acreage has been brought close to the aggregate standards for the estimated 1965 population of 6,800,000. However, the open space needs at the various levels of governmental responsibility indicate a considerable void that needs to be filled just to meet present open space standards. The Open Space Policy Plan provides a comprehensive means of directing the continued acquisition of open space in order to keep pace with the State's rapidly expanding population and development. The Plan shows approximately 12½% of the State in open space and represents about 125,000 more acres than the 480,000 acres of Federal, State and County level open space that our standards would require for the 10 million population level.

Thus, the Open Space Policy Plan can be a major device in helping to create a desirable environment within the State and should serve as a basis for the protection and conservation of valuable open space within our rapidly urbanizing State so that present and future generations might have the opportunity to partake of New Jersey's natural heritage.

The Open Space Policy Plan for the 20 Million Population Level will provide a basic plan at this time (see Fig. 5, Chapter II) for the acquisition of open space to be used both in the presently delineated Critical Area and in the now existing less urban sectors of the State to guide development, provide multiple-purpose open space areas, and to protect and preserve areas of historic interest, scenic beauty and natural resources.

The plan will be dynamic and adaptable to changing needs and policies as the 20 million level of population is approached. Open space will, hopefully, complement and promote policies on future land use patterns, and acquisitions will be used to help shape and define these patterns. Indication of specific items such as levels of governmental responsibility, actual acreage and specific proposals will not be attempted at this time. However, the general policies and acquisition indicated by the plan, when undertaken by all appropriate levels of government, will help to provide a very desirable urban environment for the people of New Jersey.

CHAPTER I

THE CHALLENGES AND ISSUES OF OPEN SPACE PLANNING

The Role of Open Space Planning

As the work week for most Americans has grown shorter, increased demands for facilities for leisure-time and recreational activities have come into being. By 1985, forecasts suggest that the average work week will be shortened to 32 hours. Earlier retirements and continued mechanization of work both in the home and on the job will produce more leisure time for all members of the family. A distinction must be made between leisure and recreation. Leisure is that time during which the individual is not sleeping, eating, or working; it is that period in the day when a person is freed from the pursuit of the basic necessities of life. Recreation, on the other hand, suggests a conscious choice or preference in the way people spend their leisure time. Recreational activities can take many forms. What one man may consider recreation, another may look upon as a necessary chore. The "do-it-yourself" hobbyist, for example, derives enjoyment from activities which others may consider outside the realm of leisure time. To many, to "recreate" means to sit quietly in some comfortable spot and watch the world pass by; others seek more active outlets for their leisure time — playing golf, hunting, fishing, swimming, boating, camping, etc. Regardless of what may be considered by an individual as recreation, it is evident that much of our leisure time is spent out-of-doors. Outdoor recreational activities are viewed by many as the most constructive use of leisure time, since such activities provide an opportunity for creativity, refreshment, and renewal of energy away from the workday world.

The provision of opportunities for outdoor recreation is generally accepted as a primary responsibility of the various levels of government. Although there are a number of areas in which outdoor recreational facilities are provided by private groups for a limited membership or on a commercial basis (golf courses, swimming facilities, hunting grounds, etc.) for the most part, open space for recreation requires the participation of government in its acquisition, protection, and development. The expenditure of public funds for the acquisition and development of open space areas is justified on the basis that such areas enrich the life of the total community by providing opportunities for the worthwhile use of leisure time and by contributing to the social, physical, educational, and cultural well-being of its people.

Open space areas also serve to protect important natural resources and to provide for aesthetic experiences. Water resource areas, areas of timber resources, unique natural sites, etc., are often protected in conjunction with their management as outdoor recreational areas. In such instances, however, careful management and controls are required, lest the recreational use of such areas come into conflict with conservation objectives. Nevertheless, open space for conservation is generally recognized as another important responsibility of government. For the purpose of this report, therefore, open space is defined as:

> That portion of man's enivronment which is characterized by natural scenic beauty or openness and which is dedicated to being preserved or kept open in order to enhance urban, suburban, or rural areas and as important physical, social, recreational, conservation, aesthetic, or economic assets.

Thus, the distinction must be made between open space and vacant or undeveloped land. While the latter category has the potential for becoming open space as it is defined for the purposes of this study, it is only after a conscious decision has been made to dedicate or reserve these lands that they can be considered a part of the overall system of open space.

It is generally acknowledged that lands in agriculture offer an important potential for open space. Such areas are often ". . . characterized by natural scenic beauty or openness . . ." However, the dedication of agricultural lands as open space is temporary. As the pressures of urbanization and the incentives for sale mount, agricultural areas are likely to succumb to more intensive land uses. Thus, agriculture lands, while possessing the potential, would require long-range protective measures in order to maximize this potential. The provisions of the recently enacted Farmland Assessment Law (N.J.S.A. 5A:4-23.6) represents a first step in this direction. However, the short-term nature of the "roll-back" feature of the Law which allows such lands to revert back to a more intensive use, places it in the "temporary" category. More permanent measures are required if agricultural lands are to function as an integral part of the overall open space system.

With over 900 persons per square mile, New Jersey has the dubious distinction of being the most densely populated state in the nation. Furthermore, New Jersey's population density may be expected to increase substantially in the years ahead. It is estimated, for example, that over 10 million people will be living in New Jersey before the year 1990. With these increases in population, greater demands will be placed upon New Jersey's land resources by all forms of development, and this situation will be compounded by the competition for adequate space to insure the proper location of industrial, residential, commercial, and other land uses. The question arises, therefore, as to how much of this vital land resource should be preserved for open space and recreational pursuits.

If New Jersey is to continue to offer a desirable environment for future growth, it must have an adequate supply of open space to provide a balanced land use system that will assure recreational outlets, protect valuable natural resources, and satisfy the aesthetic needs of future generations. This, then is the challenge which confronts the public in general, the respective levels of government in particular, and the planner, who must maximize the effective use of physical, economic, and social resources by providing guidelines for the orderly growth and development of our State.

The Objectives of the Open Space Policy Plan

It is the purpose of this report to explore some of the long-range implications of open space planning and to set forth broad goals and objectives to serve as guidelines for the future development of New Jersey, particularly as related to the need for an adequate system of public open space. This report is undertaken as a part of the Plan Formulation Stage of the Statewide Planning Program. It is the primary objective of State Planning, and in particular, this phase of the Statewide Planning Program, to formulate a comprehensive and long-range State Development Plan to provide the basis for the sound evaluation of day-to-day governmental decisions related to the overall growth and development of New Jersey now and in the foreseeable future. This State Development Plan and the continuing planning activities which must accompany it, if it is to be successful, will establish the foundation upon which decisions as to capital expenditures, legislative policies, and governmental action at all levels can be built.

In contributing to this objective, this report will attempt to provide answers to a series of questions concerning the planning for open space:

1. How much land should be dedicated to meet future open space needs?
2. What functions are performed by open space recreational facilities and how can these functions be reflected in the qualitative aspects of open space?
3. Whose responsibility should it be to provide open space areas in fulfillment of these various functions?
4. In what manner can open space be located to maximize its benefits to the potential users of these facilities?
5. What methods are available for the protection and conservation of open space areas?

In attempting to answer these questions, this report will explore four basic areas: the qualitative aspects of open space; open space standards; levels of responsibility; and alternative patterns of open space. In order to provide the long-range dimension to this study, the inquiry into these four basic areas will be geared to a "Horizon Population" of 20 million people, or approximately three times the existing level of population in the State. The Horizon Planning Concept, which forms the basis for the first phase of the Plan Formulation Stage of the Statewide Planning Program, is designed to provide a series of broad goals and objectives for the future beyond which point it is likely that significant changes will have to be made in the social and economical aspects of our society as well as in the physical environment, both natural and man-made. Preliminary estimates suggest that this planning "horizon" of 20 million people will be achieved in the next ninety years. In order to provide a set of shorter-range open space objectives which can be translated into more immediate open space policies, an effort will also be made within the framework of this report to formulate an open space plan for the 10 million level of population or half of the "horizon" population.

A distinction must be made between the basic objectives of the Open Space Policy Plan and the objectives of the more detailed New Jersey Comprehensive Outdoor Recreation Plan being prepared as part of the Statewide Planning Program. The Open Space Policy Plan is concerned primarily with the long-range land use aspects of open space—how much land should be dedicated to meet future open space needs; the location of open space with regard to potential users; governmental responsibilities in the provision of open space areas; and, the methods available for the protection and conservation of open space areas.

The New Jersey Comprehensive Outdoor Recreation Plan, on the other hand, will deal with the more specific aspects relating to the development of recreational facilities located upon the various public open space areas. While the present study will endeavor to provide a broad framework with regard to open space; site selection which will consider the potential for site development, the detailing of specific recommendations concerning recreational facilities within these open space areas will be the primary function of the New Jersey Comprehensive Outdoor Recreation Plan. This study is being prepared in conjunction with the Division of Parks, Forestry, and Recreation.

The Challenge of Open Space Planning

Before embarking upon a discussion of the more technical aspects of open space planning, it is necessary to explore in more detail the challenges which face the public, government, and the planner in providing an adequate system of open space to meet current and future needs. Each of these broad groups have a role to play in concert with one another and the effectiveness of this partnership, in large measure, will determine the success of any undertaking in the planning of open space.

THE CHALLENGE TO THE PUBLIC

Open space is already a public issue, not only in New Jersey, but nationally as well. In recent years the alarming disappearance of open space in and about our major urban areas has been brought to the nation's attention through newspapers, magazines, radio, and television. Every aspect, from diagnosis of the causes to proposed remedies, has been given widespread attention by leaders in many fields.

The nationwide scope of the open space problem was demonstrated by William H. Whyte, Jr., in his article "Urban Sprawl" in the January 1958 issue of *Fortune* magazine:[1]

> With characteristic optimism, most Americans still assume that there will be plenty of green space on the other side of the fence. But this time there won't be. It is not merely that the countryside is ever receding; in the great expansion of the metropolitan areas the subdivisions of one city are beginning to meet up with the subdivisions of another.
>
> The problem, of course, is not an absolute shortage of land. Even with the 60-million increase in population expected in the next two decades, America's 1.9 billion acres of land will be quite enough to house people, and very comfortably. It will not be enough, however, if land is squandered. It is in the metropolitan area that most people are going to be living, and the fact that there will remain thousands of acres of say, empty land in Wyoming is not going to help the man living in Teaneck, New Jersey.

In 1960, the New Jersey Department of Conservation and Economic Development published a study entitled *The Need for a State Recreational Land Acquisition and Development Program.* This study attempted to assess the need for increased state-owned recreation and conservation lands. According to the report:[2]

> The most important single finding is the immediate and compelling need to acquire additional lands for outdoor recreational development and water supply storage facilities . . . A vigorous land acquisition program of new open lands should be adopted at this time . . .

The report concluded with a number of specific recommendations, among them the following:[3]

1. Immediate steps to be taken to launch an effective ten year open space and recreational land acquisition program.
2. The problem of providing the necessary funds be given to a study committee composed of citizens, legislators and administrative officials.
3. The acquisition of water storage sites should be planned and coordinated with the needs for recreational open space.
4. Open lands when acquired should be developed under the multiple use concept already recognized by the legislature.

5. Consideration be given to a program of financial assistance to local levels to stimulate the acquisition of smaller more intensive recreational sites.

This report, and especially the above recommendations, formed the background for the executive and legislative action which led to the placement of the Green Acres Referendum on the ballot in November of 1961. The passage of this Referendum was a public statement that the State must assume a major new responsibility in cooperation with county and local governments in the protection of open space for public use.

The objective of the Green Acres Program, stated in the Act[4], is the provision of lands for public recreation and conservation of natural resources. The Act recognizes the State's responsibility in providing public open space that such lands "promote the public health, prosperity and general welfare and is a proper responsibility of government."[5]

The Act also identifies the challenges of open space planning by stating that ". . . lands now provided for such purposes will not be adequate to meet the needs of an expanding population in the years to come. The expansion of population ,while increasing the need for such lands, will continually diminish the supply and tend to increase the cost of public acquisition of lands available and appropriate for such purposes . . ."[6]

Several other states, among them New York, Connecticut, Pennsylvania, Wisconsin and California, have also recognized that the pressures of urbanization require that a vigorous program of acquisition be initiated to insure the availability of an adequate supply of public open space for future generations. In these undertakings, as in the Green Acres Program, the states have gained public support through an intensive educational program, enlisting the support of various citizen groups to disseminate information concerning the need for open space.

While there is a growing public awareness of the need for and desirability of advance acquisition of space in the face of mounting pressures of urban growth, the public must also come to recognize that "quality" open space must be attained. Open space must be considered a necessary part of development and not merely relegated to undevelopable or "leftover" lands where overlooked needs can be met at a later date.

The problem is not only one of gaining public support for acquisition and development programs, but also to enlist their participation in efforts to find answers to the questions of how open space can be protected and what ends and fundamental objectives should such actions serve.

THE CHALLENGE TO GOVERNMENT

The challenge to government is clear. Governments at all levels must cooperate in seeking new methods and must share resources, whether they be personnel or financial, to obtain the objectives of providing adequate open space at all levels.

The State of New Jersey has a long history of public acquisition. The first public lands in New Jersey were purchased for conservation purposes in 1905 under the Forest Park Reservation Act passed in that year. In 1915, a Department of Conservation and Development was established, bringing parks, forestry, water, and geology all within the scope of a single department.

From the early beginnings of the state park movement, gifts have played an important role in adding numerous areas to the public open space system. In 1932, a land acquisition program was initiated by the Fish and Game Agency, applying fees obtained from hunting and fishing licenses to the purchase of public open space.

Since World War II the State has made several important purchases included in the 1950 Development Plan: the Worthington Tract, the Wharton Tract, Island Beach, and the Spruce Run-Round Valley Reservoir Complex. The maximum multi-purpose use of these tracts was envisioned at the time of purchase.

The Green Acres Program provides an excellent example of State, county and local cooperative action in an effort to meet the challenge to government of planning for open space. The total $60 million in funds provided by the Green Acres Bond Issue has been divided, $40 million to be used for the acquisition of new State open space areas, and $20 million to be used as 50 percent matching grants to assist counties and municipalities in the acquisition of recreation-conservation lands. The Green Acres Program is also designed to develop and test new methods of protecting and conserving open space areas both for recreation and conservation purposes. This point will be discussed at length in Chapter V.

It should be borne in mind that Green Acres was never intended to be the entire solution to the open space problems in New Jersey. As the State grows, the need for open space will become more vital. With the impetus provided by the major acquisitions made possible by Green Acres, however, it should be possible to stimulate a continuing program of open space development enabling municipalities, counties and the State to maintain an open space system by the rational budgeting of resources in the future.

The Federal government, in recognition of its responsibilities in meeting the challenge of open space planning, has recently initiated two important programs to assist state and local governments in the acquisition and preservation of recreation and conservation areas. The first of these programs was launched one year after the passage of New Jersey's Green Acres Program as a part of Title VII of the Housing Act of 1961. The legislative purposes of this program are stated as follows:[7]

> To help curb urban sprawl and prevent the spread of urban blight and deterioration, to encourage more economic and desirable urban development, and to help provide necessary recreational, conservation and scenic areas by assisting State and local governments in taking prompt action to provide, preserve, and develop open space land which is essential to the proper long-range development and welfare of the Nation's urban areas, in accordance with plans for the allocation of such land for open space uses, and beautify and improve open space and other public urban land, in accordance with programs to encourage and coordinate local public and private efforts toward this end.

Under this program, open space grants are made to state and local public bodies to provide from twenty to thirty percent of the cost of acquiring open space land including agricultural land in and around urban areas. Acquisitions must be based on, and in accordance with, comprehensive plans for the areas.

This Federal program, administered by the Department of Housing and Urban Development (HUD), takes cognizance of two important aspects of open space planning: (1) the importance of an active open space acquisition program in urban areas, which in light of the high costs of land, requires State and Federal participation; and, (2) the importance of a comprehensive approach to the planning of open space in conjunction with other forms of development. With the requirement of a comprehensive planning approach, this program recognizes that present and future population trends, patterns of urban growth, the location of transportation facilities, and the distribution of industrial, commercial, residential, governmental, institutional and other activities must be brought into consideration as they relate to open space acquisition proposals.

A second program which illustrates recognition at the Federal level of the need for cooperative open space planning is the recently enacted Land and Water Conservation Fund Act.[8] Passed in September, 1964, this program provides funds, administered by the Bureau of Outdoor Recreation of the U.S. Department of the Interior, to permit the federal government to share equally with the state in the acquisition and development of outdoor recreation projects which are part of a statewide comprehensive plan, or part of a land acquisition program, or part of a development program. This program, designed to run for 25 years beginning January 1, 1965, derives its funds from a number of sources including:[9] (1) admission and user fees at Federal recreation areas which meet certain qualifications; (2) net proceeds from the sale of surplus Federal real property; and (3) the existing tax on motorboat fuels. Funds may also be transferred by the State to the local units of government, if such projects are in accordance with the state's comprehensive outdoor recreation plan as approved for participation in this program.

Two other Federal programs, the Urban Renewal Program[10] and the Watershed Protection and Flood Prevention Act[11] also provide funds for the protection of open space in specific areas. Under the Urban Renewal Program, a part of a Federally assisted urban renewal project area may be considered a contribution (in open space) from the local unit toward its share of the cost of the urban renewal project. Such an acquisition may also be made with the help of Green Acres Funds. The Watershed Protection and Flood Prevention Program of the Federal government will share up to 50 percent of the cost of water-related basic recreational facilities, and will pay all costs for installation services allocated to that purpose, and up to 50 percent of the costs of certain lands, easements, rights-of-way, and modification of existing improvements.

THE CHALLENGE TO PLANNERS

The planning process has been likened to trying to catch a moving train. It is difficult, if not impossible, to board a moving train by running perpendicular to its line of movement; rather one must run parallel to the train, gradually gaining speed until it is possible to board the train. Similarly, the planner must anticipate future trends far enough in advance to permit plans to be initiated and implemented before needs become acute. Plans should not only keep pace, but must accelerate to catch moving events.

The planner, however, must not only interpret future needs but also must deal with the backlog of existing needs. The preparation of supporting data needed to properly guide current decisions in many cases requires a background of research that has yet to be fully developed. It is, therefore, necessary to evolve a process whereby long-range goals and objectives are developed concurrently with the making of day-to-day decisions. Fostering a growing interrelationship between these two factors is the planner's responsibility, and his contribution to the decision-making process.

This process is already underway. This study, in many instances, discusses material and concepts which have already been incorporated into the Green Acres Program. Furthermore, New Jersey is fortunate in being able to use planning material that had been prepared in previous decades. The State Development Plan, developed during the 1940's and made public in 1951, indicates many long-standing open space acquisition goals.

A more comprehensive examination of basic policy objectives, planning techniques, and programming criteria is needed to guide future open space actions of State, county and local governments. This study, as an integral part of the Statewide Planning Program, is designed to accomplish that objective.

An analysis of open space needs is one of the most important studies that the planner must undertake as he formulates a comprehensive development plan. Generally speaking, an analysis of open space potential involves a study of the remaining voids yet to be found in the growing pattern of urbanism. With the exception of urban renewal development, all significant future development will be located in existing vacant space. Many land uses will compete for the undeveloped land, and it is the job of the planner to provide guidance as to the best possible use of these areas. Open space is, of course, but one of the items to be considered; however, the importance of its wise use in development plans cannot be denied.

A good plan must bridge the gap between theory and practice. While theoretical solutions seldom gain wide public support and popular solutions are seldom comprehensive enough to provide a complete solution, the planner must seek to satisfy both aspects. The answer would seem to lie in the evolution of more sophisticated processes of developing widespread public understanding in order to achieve more viable and comprehensive solutions to physical and social problems. This is the challenge that faces planners and the public alike; both must share the responsibility to endow our environment with those qualities which will merit the respect of future generations.

The Issues of Open Space Planning

Both the Federal and the State legislation offer important tools in the solution of open space needs in New Jersey. Combining these State and Federal programs for maximum benefit will be one of the first important tasks confronting both administration and planners. There remains, however, many other basic issues that must be resolved before the most effective use of public resources can be guaranteed. Not only must each level of government resolve what their respective responsibilities are with regard to open space, but there must be further clarification where existing jurisdictions either overlap or are not covered at all. Questions arise not only in the field of open space but also with regard to the relationships of open space and recreational needs with other major environmental factors.

Many questions yet to be answered relate to a series of problems extending beyond New Jersey's boundaries: the relation of open space in New Jersey to the open space pattern of surrounding states; the role of interstate planning; the extent to which out-of-state open space needs should be met by New Jersey; the role of the Federal government in metropolitan and State open space programs; and, the role of the Federal government in the purchase of municipal and county open space facilities.

As the State's responsibility in meeting open space needs is more clearly delineated further questions arise: the relationship of open space elements to basic statewide development goals; the application of open space standards at the State and local levels; the identification of open space elements which are the State's direct responsibility; the identification of types of open space need now inadequately met; the relation of increasing leisure to recreational demands; the role of public action in protecting non-public open space elements such as golf courses and summer camps; the desirability of developing inlying rather than outlying open space facilities; the role of highway planning; the determination of governmental responsibility for open space potentials falling on the boundaries of two or more political subdivisions or facilities crossing state boundaries; the contributions of commercial recreational facilities in New Jersey, especially along the New Jersey shore; the future of large undeveloped areas within the State; and, the problems and potentials accompanying the development of Tock's Island Dam and recreation area.

On the local level, important planning questions must also be given consideration: the priority of open space needs in relation to industrial and residential land uses; the role of the county in local and state planning; the problems facing large cities in the provision of open space; the role of suburban areas in supplementing open space facilities of core urban areas; the open space needs of rural and suburban areas; the effects of future population on open space needs in various areas; the relationship of urban renewal activities and open space; the use of effective flood plain zoning along appropriate watercourses; and, the discouragement of undesirable development by local planning.

If the growing recognition of open space needs has not been accompanied by a correspondingly strong concept of what open space should be, it is because open space is so closely related to development that it cannot be dealt with in isolation. Open space is part of a broader problem: the problem of reserving sufficient space for the future. In our rapidly growing urban and suburban areas space must be provided for many types of facilities. Parks and recreation lands are just one of the needs. Sites for new industrial lands, shopping centers, highways, and institutions must also be found, and in many cases, reserved in advance, if the opportunity to properly locate such facilities is not to be lost. Unfortunately those agencies whose responsibility is the acquisition of public facilities are rarely either the quickest or highest bidder for what remains. Furthermore, in every urban region there is a variety of public, semi-public, and private open space uses which are yielding to the very development pressures which make their continued existence all the more important. These facilities supplement public parks and recreational areas by providing desirable breaks in the patterns of urban development.

What is needed is a more comprehensive approach to planning; yet the problem goes far deeper than that. The tax structure in New Jersey has created an environment which tends to discourage the implementation of plans for open space facilities. While it may be relatively easy to forecast future needs, it becomes more difficult to find a willingness to pay for them in advance. Often when a price tag is put on any future facility, the project is set aside, only to be revived at a later date when the best site is gone and a less desirable site, as the only remaining alternative, may cost several times what the original site would have cost.

Under such conditions, planning becomes deficit planning — attempting to catch up on needs already existing and paying premium prices to do so. If New Jersey is to make the most effective use of both its natural and fiscal resources, new taxing methods, coupled with advanced planning techniques must be devised to permit needs to be anticipated in time to afford a savings of sufficient magnitude to make adequate facilities financially feasible. This is one of the key issues in the planning of open space.

The answers to many of these questions have yet to be evolved. Furthermore, answers which do emerge may not be compatible with each other. In short, while there is a growing recognition of the need for open space, there exists no broadly conceived, unified policy guide tailored to the particular social and geographic conditions within which each level of government exercises its respective responsibilities.

FOOTNOTES

1. William H. Whyte, Jr., "Urban Sprawl," *Fortune*, January, 1958, pp. 102ff.
2. New Jersey Department of Conservation and Economic Development, *The Need for a State Recreational Land Acquisition and Development Program*, (Trenton: State of New Jersey, 1960), pp. 12-13.
3. *Ibid.*, p. 16.
4. *N.J.S.A.*, 13:8A-1 et seq.
5. *N.J.S.A.*, 13:8A-2(a).
6. *Ibid.*, (b), (c).
7. *Housing Act of 1961*, as revised by the *Housing and Urban Development Act of 1965*, Title VII, Sec. 701 (c), Public Law 89-117, 42 U.S.C. 1500-1500e.
8. *Land and Water Conservation Fund Act of 1965*, Public Law 88-578, 78 Stat. 897.
9. *Ibid.*, Title I, Sec. 2.
10. *Housing and Urban Development Act of 1965*, Public Law 89-117, 79 Stat. 451, Title III.
11. *Watershed Protection and Flood Prevention Act*, c. 656 of 1954, 16 U.S.C. 1001 et seq., 33 U.S.C. 701b.

CHAPTER II

THE QUALITATIVE ASPECTS OF OPEN SPACE

Much has already been accomplished in the development and management of open space facilities through the instrument of government. The primary concern of the Open Space Policy Plan is to explore and further promote the successful interrelationship of open space policies of each level of government, particularly as these relate to the open space and recreational needs and character of specific areas of the State.

Open space is closely related to development in that it cannot be dealt with in isolation nor can the qualitative aspects in providing open space be ignored. Public open space requirements cannot be adequately met merely by providing vast areas of undeveloped land. There are several functions of open space that must be considered in dealing with the needs of the existing State population and in providing for growth. A comprehensive policy is necessary to assure that enough of each type of open space is made available. This chapter will discuss these qualitative aspects or functions of open space and New Jersey's potential for meeting these needs.

The Functions of Open Space

Five basic functions of open space have been identified by Penjerdel. These include:[1]

1. Provision of recreational areas;
2. Protection of natural resources;
3. Preservation of distinctive architectural, historic, geologic, and botanic sites;
4. The creation of breathing spaces in densely settled areas; and,
5. The shaping of urban growth and the preservation of natural beauty near urban and suburban development.

All of the functions enumerated by Penjerdel are applicable to New Jersey. It is virtually impossible to assign priorities to these functions. Although most people would probably consider recreation first, in a small urban state such as New Jersey, the other functions are vitally important. The wide range of development and population densities of the State make all of the above uses important.

RECREATION

The need for open space for recreation was undoubtedly the most important factor in the voters' approval of the Green Acres Program. It is not unusual for residents of New Jersey to see land used as informal play areas by neighborhood children become occupied almost overnight by apartment houses or other forms of development. Recreation areas throughout the State, that should have been publicly owned to insure their permanence, were never acquired and consequently have disappeared. In many areas, the street is the only obvious and convenient place for neighborhood recreational pursuits. Signs of "Sorry—Full" have begun to appear with greater frequency, providing evidence that our State's open space system is inadequate at present to fulfill public demand.

The problem is not merely insufficient space for recreation. The problem is also one of providing effective space—areas of land and water which are both accessible to the public and which are useable for specific types of recreation. Surveys have indicated that for reasons of location or management, many areas of public open space nominally designed for recreation are not available for general public recreation use. Large acreages lie beyond convenient traveling distances from urban areas where the demand is the greatest. Correcting this imbalance is a basic policy problem, incorporating both legislative and administrative aspects of decision making.

In selecting lands which provide a balanced system of recreational opportunities, the greatest challenges lie in finding lands which are properly sized and which are located in those places where public needs develop. Too often recreational lands are one of the last urban needs to be considered.

Densely populated urban areas often do not have the acres of space recommended for recreational facilities, nor is it reasonable to assume that highly priced land in these areas will be redeveloped to provide large amounts of open space. The need for recreation in urban areas, now and in the future, must be met by intensive recreation programs in public facilities coupled with a planned program of small park acquisition. In the developing urban fringe, the potential for providing various types of larger parks still exists. In such areas, advanced planning is vital to insure that the amount of land needed, its location, and activities to meet changing needs are properly considered.

Much of the present open space system is designed for users with automobiles. However, in urban areas as high as 40 percent of the families do not own their own automobile. Therefore, the State as well as the counties must begin to make provisions for an open space system which is accessible to the urban population who must rely on public transportation.

Public expectations for various types of intensive uses and services provided by recreation are changing; at the same time, some forms of recreation are becoming inconsistent with the spread of urbanization. These factors must be taken into consideration in developing an overall open space policy.

PROTECTION OF NATURAL RESOURCES

The rapid urbanization which has taken place within New Jersey has placed unprecedented pressures upon the State's natural resources. A failure to respect the balance of nature, in some instances, has resulted in detrimental changes in the environment. High prices must be paid by subsequent generations to restore and maintain the natural environment. For example, flood damages have been severe in the State, yet upstream natural areas which normally absorb significant amounts of excess water have been filled in, thus aggravating downstream drainage problems. Hunting and fishing have increased in popularity, yet a rising number of wildlife species are in danger of extinction and numerous rivers are polluted to the degree that many forms of fish life cannot survive. Wells have run dry, yet aquifer recharge areas that should have been protected or judiciously developed have been paved with streets, parking lots and homes. Irreplaceable wildlife and natural areas, including marshes and forested areas, are being destroyed by the rapid suburbanization of the State.

Natural resources play a vital role in the State's economy. Industrial and residential growth require an adequate supply of water. The yield from New Jersey's agricultural lands, which are so rapidly disappearing, has the highest value per acre of any State in the country. Salt marshes are important to fishery resources since such areas provide both food and nursery areas for many forms of marine life which are of commercial value. Natural resources, likewise, have aesthetic and recreational value for the State's residents. For example, the State's forests in many areas provide a welcome relief from the seemingly endless urban sprawl which has become prevalent in urbanized New Jersey. The recreational value of forests is increasing in importance as outdoor activities such as hunting, fishing, and camping become more popular.

At some point in New Jersey's future, agriculture, forestry, fishing, and mining as economic activities will not be able to compete with urban development demands for land. This does not mean, however, that the land should be abandoned to other uses prematurely, far from it. Land should be protected until the development of its value is maximized. When land has been built upon and values have changed accordingly, it is very difficult to alter that use, particularly for open space.

The protection of our wildlife resources is heavily dependent upon the existence of natural areas. Specific kinds of habitats are required by the life cycles of some types of wildlife. A prime consideration in the formulation of a comprehensive open space policy must be the assurance of an adequate variety of wildlife habitats.

PROTECTION OF UNIQUE SCENIC AND NATURAL AREAS

There is great diversity among the many subtle scenic attractions found in New Jersey. While lacking spectacular features such as the Grand Canyon, New Jersey can present to residents and visitors alike highly rewarding landscapes with a relatively short traveling time.

Nevertheless, genuine concern can be expressed as to what has been happening along our suburban and rural roadways. Familiar scenic and natural landmarks, imparting unique characteristics, have disappeared in the path of development.

New Jersey does have its own historical, architectural, botanical, geological, and ornithological attractions which are of continued public interest for educational and cultural reasons. These are likely, however, to yield to development trends, unless they are specifically protected for future generations.

BREATHING SPACES IN URBAN AREAS

The need for "breathing spaces" is becoming acute in the densely populated areas of New Jersey. Central Park and the soon to be constructed Liberty State Park on the Jersey City waterfront present the opportunity to both inhabitants and visitors to divorce themselves from the pulsating life of the cities which surround them.

Playgrounds, small parks, squares, commons, etc., though smaller in scale than the above examples, can also play a vital role in offering this diversion to the people in relief of the mile upon mile of urban development that typifies the Northeast United States.

The need for urban "breathing spaces" is not an easily measurable need. The history of park acquisition has demonstrated that a relatively small amount of open space, if properly located, can increase the overall value of an area to a considerable extent. Some progressive land developers are aware of this and have been among the leading supporters of the qualitative aspects of the open space system.

SHAPING URBAN GROWTH AND PRESERVING NATURAL BEAUTY

Unlike many European countries, the United States has no noticeable open areas between urban and suburban regions, for the land is developed with a spotty pattern in endless continuation. The need for shaping urban areas and differentiating them from the rural environment has long been one of the fundamental objectives of the planner. The principle of providing "breathing spaces" within an urban environment can be applied at a large regional scale through the development of "greenbelts," open space "wedges," or other concepts which are directed toward the shaping of urban regions. The preservation and enhancement of natural beauty near urban settlements is a further role of open space as a shaper of growth. While many areas cannot be held open merely for aesthetic purposes, when combined with other purposes, aesthetic considerations can be accorded a rightful place. Any areas considered necessary to shape growth must be designed to serve a multiple purpose, including recreation, conservation, aesthetics and the preservation of unique natural resources. The concept of multi-purpose use is the economic rationale for patterns of open space. The more functions served, the more valuable is the facility in and of itself and the more justification for having it.

Potential Open Space in New Jersey

While many valuable lands have already been incorporated into State, county, and local park systems, an awareness of the need for additional open space has led to studies by numerous private and public agencies. These studies range from nationwide reports such as those made by the Outdoor Recreation Resources Review Commission, the Bureau of Outdoor Recreation, and the National Park Service, to regional studies undertaken by such groups as the Regional Plan Association. Many of these studies have supported State proposals and have advanced other proposals and suggestions for the preservation of specific sites within New Jersey and have identified specific natural assets which should be protected, developed and incorporated into the overall pattern of urban development. In addition, studies at the county and local levels deal with specific local needs within their respective jurisdictions.

The first items to be compiled and mapped were open space proposals and lands already in public open space. All available sources of proposals, including local and county plans, were then reviewed and mapped in order to obtain a complete picture of open space thinking at each level of government.

EXISTING AND PROPOSED OPEN SPACE

Federal open space proposals in New Jersey center heavily upon the authorized Delaware Water Gap National Recreation Area, where a major national recreation area will be combined with water resource control and flood prevention measures along the upper Delaware. Other important federal proposals include: (1) an expansion of the Brigantine Wildlife Refuge in Atlantic County; (2) Goose Pond (4,076 acres) an extension of the Killcohook area along the Delaware; and, (3) the ultimate expansion of holdings at Great Swamp in Morris County to 8,000 acres.

A major basis for State acquisition has been the 1950 State Development Plan and the unpublished Pilot Open Space Plan which delineated both existing and potential Fish and Game lands, seashore parks and watershed lands. In addition to existing parks, forests and recreation areas, the 1950 Plan specified general purpose areas of limited development potential which should be studied further as potential State park and conservation areas. Many of the current Green Acres proposals are an outgrowth of further investigation as to the recreational potentials within these general purpose areas.

County planning for open space varies from comprehensive county park systems to limited isolated park proposals. A number of more urban counties presently have extensive systems; some of the more rural counties have not as yet acknowledged the need for planned open space, despite the approaching urban encroachment.

Open space proposals made in a large number of local master plans, many of which were produced under the auspices of the State and Federal 701 Local Planning Assistance Program, were plotted and analyzed. A common attribute of these plans seems to be that adequate amounts of open space are often proposed, but these proposals are not subsequently acted upon.

WATER ORIENTED POTENTIALS

The existence of water is an important prerequisite in the development of recreational areas. Any number of conservation and open space needs are also directly related to water. The map entitled Water Oriented Potentials and Problems summarizes some of the factors significant to open space planning. These include such aspects as reservoir needs, watersheds, aquifer needs, flood problems, recreational uses of streams, shellfishing problems and the use of wetlands.

Reservoir sites have a double value in an open space system. Not only are reservoirs necessary as impoundment areas for the storage of water, but they can also double as recreation facilities. Topography and geology dictate where reservoirs can be located, and, if these unique sites are to be available for future water supply, they must be preserved well in advance.

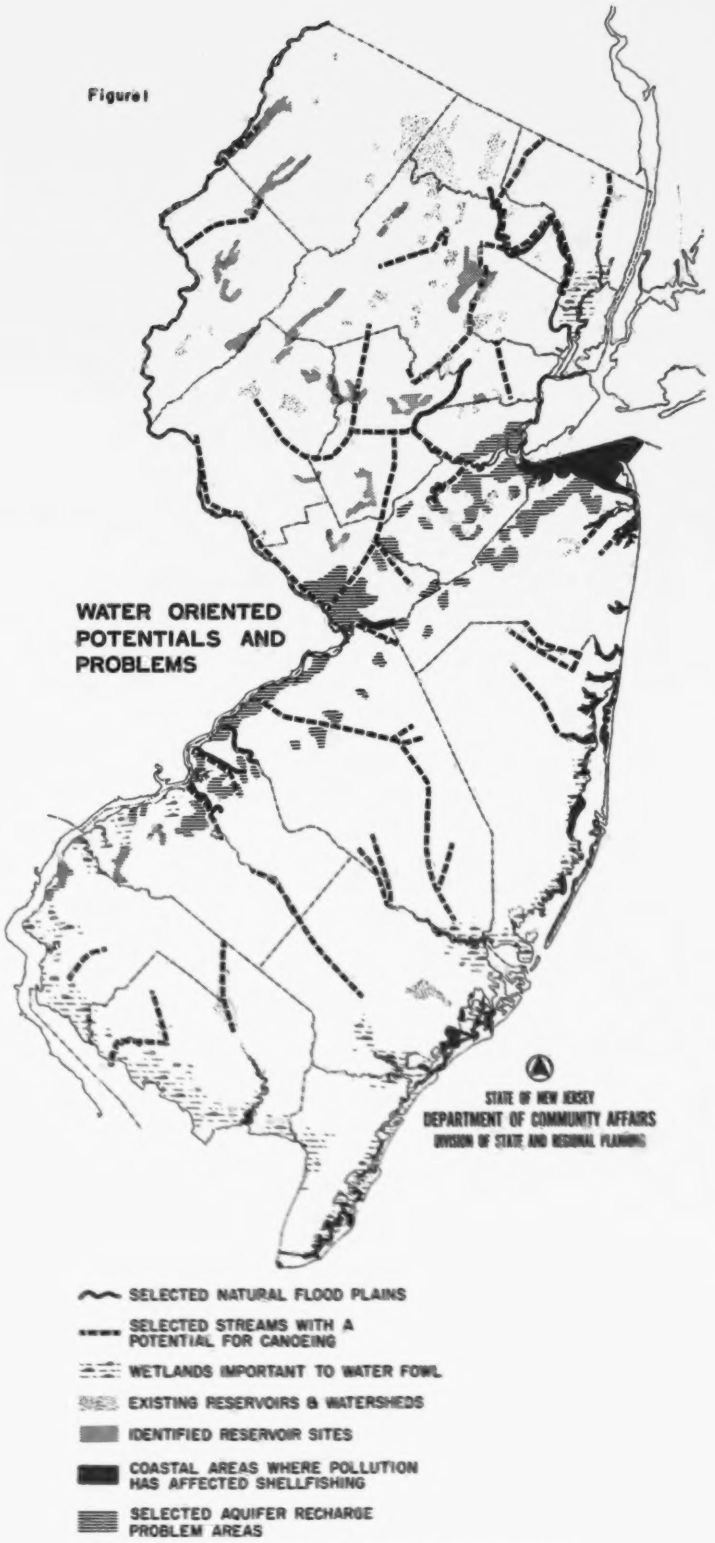
It is difficult to determine at what point development makes a potential reservoir site impractical for further consideration. However, such development occurs and the cost of site acquisition becomes prohibitive. While water needs of the future may make some reservoir sites essential at any cost, in the meantime, encroachment of development upon a number of potential sites continues to increase in intensity.

Existing public and privately owned watersheds are important factors in open space considerations. By their very nature they are undeveloped lands reserved for the collection of surface water runoff. Like reservoirs, they offer a recreation potential. As the intensity of urbanism restricts single purpose uses of such large areas, it is likely that it will become necessary for this potential to be utilized more fully.

The preservation of acquifer recharge areas is vital to the State's ground water supply. Aquifers are underground water-bearing strata and are of particular importance to southern New Jersey, which possesses one of the finest ground water supplies in the Nation. The aquifer recharge area is best served if it remains in a natural undisturbed state, thus minimizing pollution and maximizing infiltration. Typically, the development of streets, buildings and parking lots decreases infiltration by up to thirty percent. Because of the extensive areas involved, it is unlikely that complete protection would be feasible. However, with coordination of open space planning, much can be achieved to minimize losses.

The banks of many rivers and streams are subject to periodic flooding, with resulting property damage, personal injuries, and fatalities. The flood plains of streams, however, could provide an important addition to the open space system. While not all portions of the flood plains may be adaptable for recreational purposes, they should be kept free of intense development, and can often be maintained as play areas, natural scenic features and hunting and fishing areas.

Figure I



WATER ORIENTED POTENTIALS AND PROBLEMS

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING
SELECTED NATURAL FLOOD PLAINS
SELECTED STREAMS WITH A POTENTIAL FOR CANOEING
WETLANDS IMPORTANT TO WATER FOWL
EXISTING RESERVOIRS & WATERSHEDS
IDENTIFIED RESERVOIR SITES
COASTAL AREAS WHERE POLLUTION HAS AFFECTED SHELLFISHING
SELECTED AQUIFER RECHARGE PROBLEM AREAS

SOURCE: *Compiled by the Division of State and Regional Planning 1967*

The coastal bays and estuaries of the New Jersey coast are important for recreational and commercial shellfishing. However, pollution resulting from intensive development has led to extensive areas along the coast being closed. The Department of Health, in closing these areas, has reported a direct correlation between pollution and development of lands adjacent to bay areas.

The coastal marshlands of New Jersey have long been recognized for their importance to migratory waterfowl as a part of the flyway along the east coast. More recently, studies in other coastal areas have also indicated the high potentiality of these marshes as spawning grounds for fish, and as production areas for food and nutrients essential to shellfish and other marine life existence. Pressures of development stemming from the nearby metropolitan areas of Philadelphia and New York combined with the commercial-recreational demands of coastal resorts has brought about the disappearance of large acreages of marshland. Diminishing coastal marshlands reduce feeding and nesting areas, directly affecting coastal waterfowl and wildlife hunting, while at the same time endangering sport and commercial fishing and shellfishing activities through the destruction and pollution of spawning grounds.

A number of the State's smaller streams are ideal as potential canoe runs and boating areas. Making such streams of use would involve the removal of fallen trees and other obstacles, natural or man-made, and the provision of suitable launching sites.

LAND RELATED POTENTIALS

Having inventoried water-oriented factors, it is now appropriate to focus upon significant land based factors which provide an open space potential. They are summarized in the map Land Related Potentials and Problems, which identifies such factors as agriculture, unique natural sites, scenic areas, trails, golf-courses, airports and natural resources, which are related to a comprehensive open space system.

New Jersey has witnessed the disappearance of thousands of acres of agricultural lands as a result of suburban expansion. Not only is agriculture presently important to the State's economy, but its value as a form of open space is also significant.

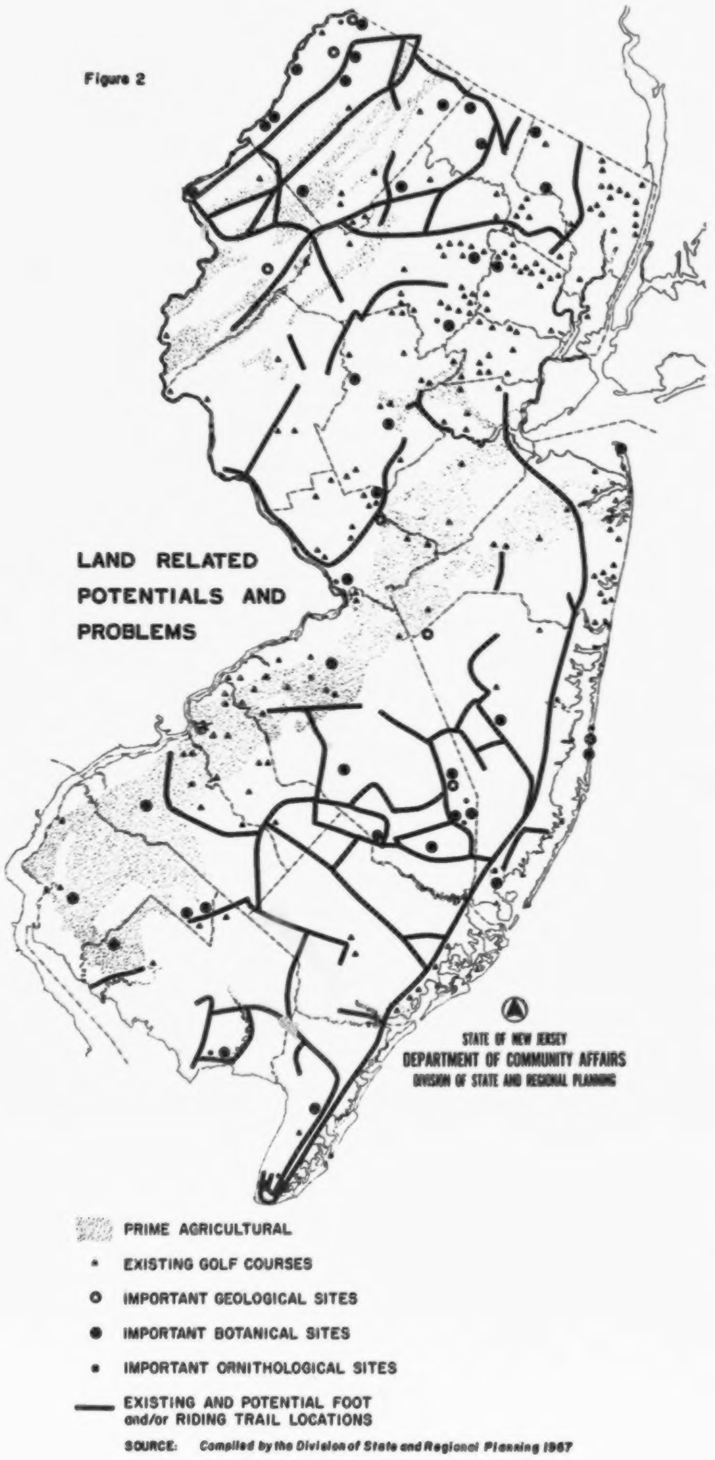
Certain areas of the State, because of their soil qualities, lend themselves to a high level of agricultural productivity while other areas of lower quality soils may also have a role as pastureland or for growing specialized crops. While the continued loss of agricultural lands appears to be inevitable, where continuation of agriculture can be justified in conjunction with other open space needs, its perpetuation as a facet of the total open space system is highly desirable.

New Jersey has more than its share of unique natural features that are of interest to the student of conservation and weekend explorer. An attempt has been made to pinpoint the location of many of these sites. A number of State agencies are doing research in this field including the Natural Areas Section and the Historic Sites Section of the Department of Conservation and Economic Development, and a number of specialists in botany, soils, geology, etc.

It should be noted that there are a number of man-made elements whose preservation may be warranted. These include such items as old iron bridges, stone and arch bridges, old mills, canal sites, furnaces, etc., which are representative of the level of engineering development of various eras in the State's past. Hopefully, these can be mapped in the future and the specific reasons for preservation documented.

Figure 2

LAND RELATED POTENTIALS AND PROBLEMS


STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING
▨ PRIME AGRICULTURAL
▲ EXISTING GOLF COURSES
○ IMPORTANT GEOLOGICAL SITES
● IMPORTANT BOTANICAL SITES
• IMPORTANT ORNITHOLOGICAL SITES
— EXISTING AND POTENTIAL FOOT and/or RIDING TRAIL LOCATIONS

SOURCE: Compiled by the Division of State and Regional Planning 1967

Because motoring is the nation's number one form of recreation, it is important that major portions of scenic highways and byways be protected from unsightly advertising and other forms of development that detract from the beauty of the landscape. Again, a major survey must be made to specifically identify any of these scenic vistas and features.

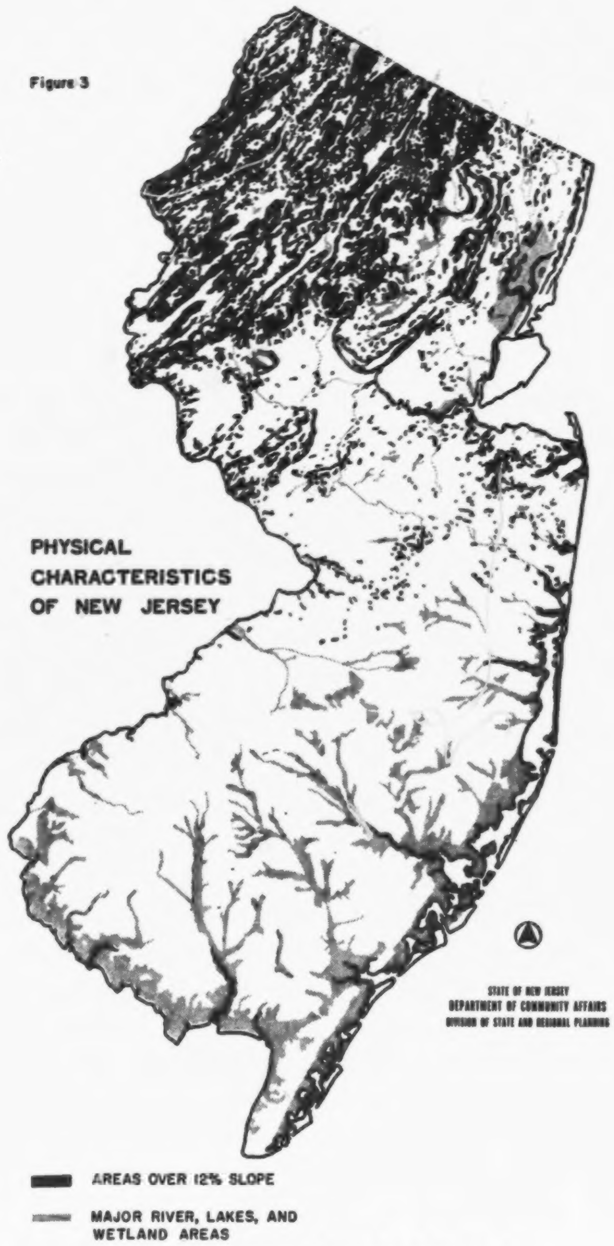
For the more hearty of the State's residents, hiking and riding trails should be provided and maintained. To this end, a number of abandoned railroad rights-of-way, pipeline and powerline easements, etc., were surveyed to discover their potential as part of an interconnected system of trails. A basic goal of an open space system should be to afford the hiker or horseback rider the opportunity to explore various portions of the State.

Despite the increased popularity of golf throughout the State, numerous golf courses have been replaced by more intensive forms of development. Many camps eventually find themselves surrounded by new subdivisions, shopping centers, and the like. Airports, too, have suffered heavily from urban encroachment.

More detailed accounts of the problems facing the above uses can be found in the monographs *Golf Courses in New Jersey*, *Summer Camps in New Jersey*, and *Air Facilities in New Jersey* which were written by the Division of State and Regional Planning.

Physical features of the State often limit development. Figure 3 indicates areas of the State that are over 12 percent slope, swamp and marshlands. Areas in these categories ordinarily have limited capability for supporting intensive urban development while they frequently do possess recreation, conservation, or scenic potential. The shape and direction of urban development will, in part, be affected by such factors.

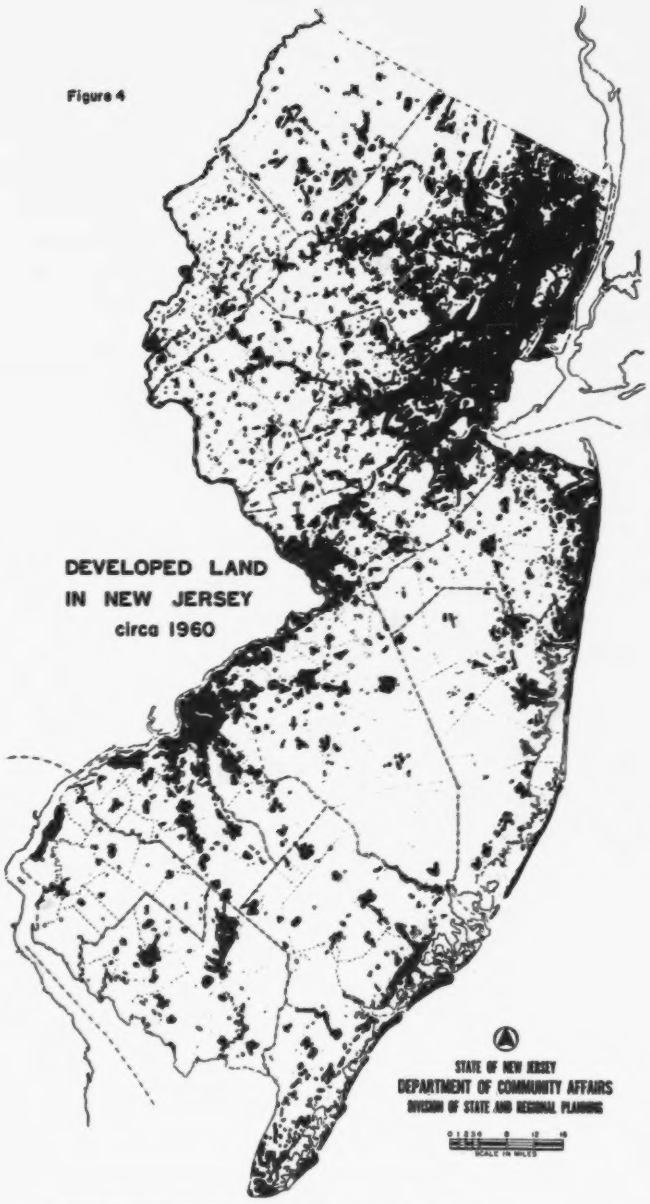
Figure 3


PHYSICAL CHARACTERISTICS OF NEW JERSEY

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING
▬ AREAS OVER 12% SLOPE
▬ MAJOR RIVER, LAKES, AND WETLAND AREAS

SOURCE: *Compiled by the Division of State and Regional Planning 1967*

Figure 4


DEVELOPED LAND IN NEW JERSEY circa 1960

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING
0 1 2 3 4 8 12 16
SCALE IN MILES

SOURCE: *Compiled by the Division of State and Regional Planning 1967*

Plans for open space will also have to consider what lands are no longer available. Figure 4 above indicates urban development in the State. This data was compiled from existing land use studies of local master plans and shows the remaining void in inlying areas which must be carefully studied to find the remaining open space potential within them.

Open Space and Development Objectives

The "Open Space Policy Study Map"[2] attempts to incorporate all of the proposals and potentials into a unified pattern. A far greater portion of the State than could be rationally justified would be dedicated to open space if all areas of open space potential were incorporated into a statewide scheme. Therefore, further planning must be selective, with local, county and existing State proposals being identifications of areas acceptable as portions of the open space of each respective level of jurisdiction. Figure 5 shows a composite of existing and conceivable public open space. Where proposals do not exist, patterns similar to comparable existing systems elsewhere have been projected.

All major potential reservoir sites were incorporated into the scheme on the assumption that, if not needed, they could serve other open space needs or be released. All existing watersheds and reservoirs are also included with the assumption that these elements can often be developed for recreation purposes. The scheme also assumes some form of local, county or State control along the major stream courses and flood plains of the State, since these areas have scenic or recreational potentials as well. The map also attempts to illustrate how various major open spaces could be linked by trails so that boating, hiking, riding and bicycling could be provided within and between major urban regions. The scheme further assumes that major forests and mountain areas which have a limited development potential should be held in some form of land management or conservation status. Finally, the map is designed to maintain certain major agricultural areas for farming; encompass all unique natural, scenic and historic areas; and, also tie in with, and relate to, major existing institutional areas.

The Open Space Policy Study Map illustrates many basic open space principles. Since it will not be possible to spend unlimited funds on open space, it becomes necessary to learn from this ideal plan in order to reflect practical considerations. The resultant plan indicates several basic principles.

First, it is evident that the character of open space changes from inlying to outlying areas just as does the character of urbanism. In intensely developed urban areas, what open spaces are found, exist as isolated islands of green space in what is otherwise an unbroken framework of development. Conversely, in the outlying, predominantly rural areas, open space completely surrounds isolated areas of urban development.

Secondly, as the density declines from the urban centers outward, there is a tendency for open spaces to connect in linear park systems. The existing county park systems of Union, Essex, Camden and Bergen Counties are examples of this tendency. In the more rural areas, where similar systems are currently proposed, these systems tend to become even stronger elements completely interconnected *in such proposed schemes as those of Somerset,* Morris and Mercer Counties. In existing and proposed areas, these systems are strongly water-oriented and tend to follow stream courses and make use of marginal lands hitherto unconsumed by development. These proposals protect major natural scenic features along major rivers, and give a measure of flood plain protection in addition to meeting water-oriented recreation needs.

A third important consideration is the larger conservation-oriented areas. The Pinelands, where the forests require comprehensive land management and conservation measures to minimize forest fires and to maximize water resource potentials, the Delaware Bay area, the Upper Delaware (Tocks Island) area, the Hunterdon Plateau, the Lakeland area and the Lower Pinelands in Atlantic and Cape May

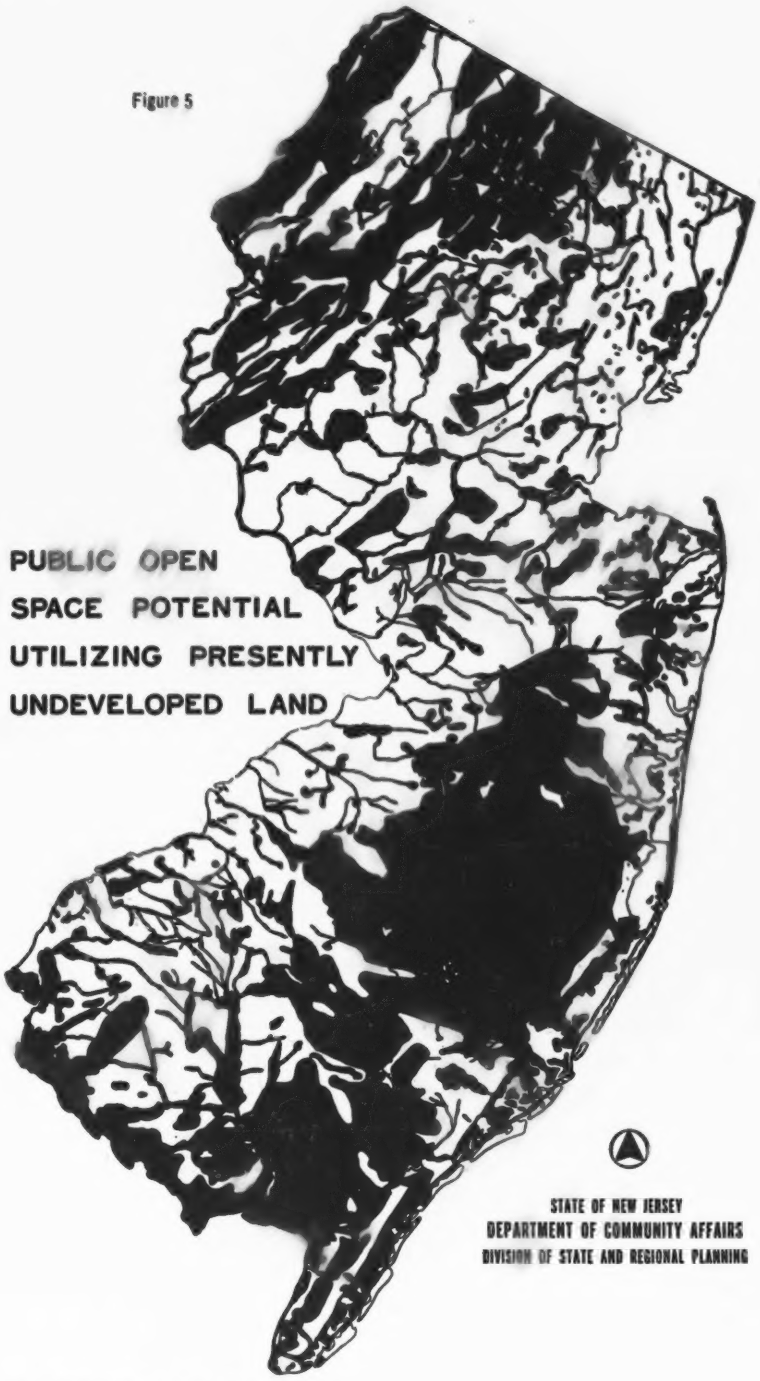
Counties are examples of major conservation regions. Also worthy of consideration are three major farming areas: the Gloucester-Cumberland-Salem complex; the Burlington-Mercer-Monmouth complex; and the Sussex-Warren-Hunterdon County areas. Each is sufficiently important as an agricultural area to warrant planning measures to forestall unnecessary premature abandonment of agricultural lands in the face of development pressures. While the State's responsibility would appear to be more properly fulfilled in relation to the outlying areas requiring major land management and conservation leadership, there appears to be need for modification of the basic division of open space responsibility. This will be more fully developed in the following chapter.

A fourth consideration is that open space areas need to be strongly water-oriented, especially in already developed urban areas. Marginal lands hitherto undeveloped and usually closely related to water courses will also have to serve as potential supplies of open space needs.

"Most people seeking outdoor recreation want water to sit by, to swim and fish in, to ski across, to dive under, and to run their boats over. Swimming is now one of the most popular outdoor activities and is likely to be the most popular of all by the turn of the century. Boating and fishing are among the top ten activities. Camping, picnicking and hiking, also high on the list, are more attractive near water sites."[3]

Finally, in the most urbanized areas, marginal areas are very often the last remaining potential location for open space needs of all sorts. Many existing agencies such as the Union County Park Commission have long had a policy of developing the marginal lands of the county for county park sites. With proper fill and effective landscaping, areas not ideal

Figure 5



PUBLIC OPEN
SPACE POTENTIAL
UTILIZING PRESENTLY
UNDEVELOPED LAND

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING

SOURCE: *Open Space Policy Study Map, 1962*
Division of State & Regional Planning
January 1967

for intensive development often have a "natural" potential for park and recreation areas. Considering the competitive costs of lands in many developing areas, the lower priced stream course, swamps, and flood plains are very often the only possible areas for providing the large amounts of open space that are called for.

All in all, there would seem to be a pattern emerging from what has already occurred in open space. The pattern is different from the classical "Greenbelt" concept but perhaps equally valid. In effect, it calls for a more pronounced system of interrelated open spaces as the opportunity for this increases from urban centers outward.

While the shaping of urban development in already urbanized areas may seem to be one of the more impossible tasks of the planner and the public alike, the guidance of further growth in yet-to-be-urbanized areas is one of the major challenges facing us today. Here the planning of open space can be a major tool in creating sound, stable living areas for future generations.

FOOTNOTES

1. Ann Louise Strong, *Open Space in the Penjerdel Region: Now or Never*, (Philadelphia: Penjerdel, March, 1963), pp. 7 ff.
2. Division of State and Regional Planning, *A Pilot Open Space Plan for New Jersey*, (Trenton: State of New Jersey, 1962), an unpublished planning report, pp. II-43ff.
3. Outdoor Recreation Resources Review Commission, *Outdoor Recreation for America*, (Washington: U.S. Government Printing Office, January, 1962), p. 4.

CHAPTER III

THE RESPONSIBILITY OF GOVERNMENT IN OPEN SPACE PLANNING

The responsibility for assuring that an adequate amount of open space is available to meet both current and future needs lies primarily with the respective levels of government. Traditionally, government has assumed this responsibility, particularly as it relates to outdoor recreational facilities, since the acquisition, development, and maintenance of such facilities are generally beyond the means and/or interest of individuals or private groups. Closely allied to this concern is the responsibility which must be assumed by the various levels of government in the conservation, protection, and recovery of natural resources. These needs have long been and will continue to be of such volume as to require governmental action.

Two aspects of the open space responsibilities of government must be examined in detail. First, there are the functional aspects, i.e., what kinds of recreational and open space facilities must be provided by the various levels of government, and what relation should they bear to other forms of land use. Secondly, there are those factors of open space planning which relate to the quantitative responsibilities of each level of government, i.e., how much open space should be provided to meet the needs of current and future populations. A discussion of these two interrelated aspects of open space planning will be provided in this chapter.

The Functional Aspects of Open Space Planning

As pointed out in Chapter I, the primary objective which all levels of government share in the development of park and recreational areas and in the protection and preservation of natural resources is the concern for the public welfare. This is a joint responsibility, however, the various levels of government (each assuming their proportionate share) fulfill these responsibilities in a different manner. Totlots and local playgrounds, for example, are most appropriately a function of the individual municipality. In addition to larger natural wooded areas or conservation areas, the county should provide a more intensively developed system of parks, public golf courses, and areas for such activities as picnicking, swimming, and boating. The state's primary responsibility tends to be the acquisition and development of large areas for hunting and fishing, camping, and other low to medium intensive forms of recreation; the preservation and conservation of large tracts of land to insure their effective management is also within the state's realm.

As a rule-of-thumb, the higher the level of government the greater the percentage of the open space holdings that should remain relatively undeveloped and held primarily for conservation purposes. Furthermore, the lower the level of government, the greater the percentage of open space that should be developed for more intensive recreational use.

A second point with regard to the functional differences among the various levels of government in the sharing of open space responsibilities relates to the size of the parcels acquired. Each successive level of government must assume a greater responsibility for providing larger areas of open space. This follows logically from the first point. At the local level, it is possible to offer intensive recreational activities on relatively small parcels. At the county level, to accommodate the types of facilities provided, larger parcels are needed. At the state and Federal levels, where a greater emphasis is placed on natural or wilderness areas, much larger holdings are needed to adequately meet these responsibilities.

A final point must be made before proceeding to the more specific discussion of the functional aspects of governmental responsibility; this relates to the problems of time and distance. Local parks, ideally, should be within easy access to those served, say 15 minutes walking time. County recreational areas should be located to maximize their accessibility within about 30 minutes by car or public transportation. State parks, although more remote, should be spaced so that all people living in urban concentrations are within 45 to 60 minutes driving time of adequate state facilities providing some, if not the entire range of recreational experiences which are associated with state areas.

THE LOCAL LEVEL

The recreational responsibilities which traditionally have been placed on the municipal level of government are extremely complex. The primary responsibility of local government is the provision and administration of a system of totlots, playgrounds, playfields, as well as neighborhood and community-wide parks. Additional responsibilities often assumed at the municipal level include: 1) providing organized recreational programs in the form of sports leagues for various age and interest groups; 2) conducting musical, dramatic, craft, and other cultural programs; 3) extending recreational services to churches, civic organizations, and other semi-public groups; 4) conducting courses for the training of recreational personnel; 5) promoting home and family leisure-time activities; and, 6) working in conjunction with other agencies in providing recreational programs in various institutions. A further responsibility often assumed by municipalities is the operation of recreational facilities in conjunction with or on property of other public or private agencies such as schools, water department property, and industrial land and buildings. This is particularly prevalent in more urbanized communities where development conditions necessitate a multi-use approach. These functions on the property of other agencies supplement the adminstration of the parks, beaches, pools, golf courses, tennis courts, and other facilities under the municipal recreation agency's own jurisdiction.

It may be observed that municipal recreation systems function primarily as user-oriented facilities since provisions must be made for recreational activities for all age groups within easy access of every home. The local recreational program should be brought daily into the lives of the population. As a result, nearly 75 percent of the total municipal open space system should be devoted to more intensive recreational uses.

THE COUNTY'S RESPONSIBILITY

The county's open space responsibilities are particularly challenging in light of the rapid urbanization which is evident in most sections of New Jersey. The findings of the Outdoor Recreation Resources Review Commission

(ORRRC) suggest two prime opportunities for counties with regard to open space planning: 1) to protect the scenic and outdoor recreation values of the total environment of the county; and, 2) to acquire and develop for public use portions of the landscape of highest value for outdoor recreation. The responsibilities have been accepted officially by the National Association of Counties (NACO). Recently this voluntary association of county officials has adopted a National Policy for County Parks and Recreation which recognizes the importance of outdoor recreation,and which recommends a logical sharing of responsibility with private enterprise and the municipal, state and federal levels of government. In part, this policy statement reads as follows:[1]

> The special role of the county is to acquire, develop and maintain parks and to administer public recreation programs that will serve the needs of communities broader than the local neighborhood or municipality, but less than statewide or national in scope.
>
> Parks and recreation should be integral elements of all county land use planning and zoning. Maximum use should be made of zoning and other regulatory powers to preserve open space, protect scenic values and otherwise enhance recreational opportunities.

In urban and suburban counties there is an urgent need for both planning and action to acquire additional open space areas and to develop facilities and programs to make these resources accessible and enjoyable to the general public, living generally in a large number of small municipalities. In such counties, park and recreational systems occupy nearly the same position today that major city parks in large cities held fifty years ago. While they may not be as intensively developed as city parks, county park systems provide many of the same facilities and recreational experiences found in city parks and playgrounds. County park systems must also make provision for nature trails, bridle trails, wildlife sanctuaries, large meadows or greens, large scale picnic areas, beaches, wooded areas, and at times, golf courses, archery ranges, botanical or zoological gardens, swimming pools, skating rinks, and other more intensely developed facilities for more active recreational experiences.

Officials in these urban and suburban counties are also faced with a number of concurrent problems stemming from the rapid advance of development, for example, increased street and highway maintenance, traffic congestion or the threat of congestion, water supply needs, sewer facilities, problems of drainage, demands for institutional and educational facilities, etc. This situation often is further compounded by the fact that often these problems must be dealt with in a governmental framework which has not progressed sufficiently from its rural beginnings to cope adequately with such responsibilities both in terms of the fiscal burdens and in terms of the structural organization.

In the more rural counties there is the opportunity for deliberate planning in advance of crises to meet the outdoor recreational needs of local residents, to eliminate the creation of future service problems such as storm sewers, etc., and to realize the economic benefits of serving recreation seeking visitors from the urban areas. Unfortunately, a parochial attitude often exists in such areas which at times makes effective planning difficult.

Despite the many problems which have beset counties in their efforts to deal with their open space responsibilities, county park and recreational systems in New Jersey have enjoyed a long and relatively successful history. Essex County was a pioneer in this regard, creating the first county park in 1895.[2] Many of the counties of the urban northeast section of the State soon followed Essex County's lead, and today several of these county systems are held up as models illustrating what can be accomplished in urban areas through advanced planning and acquisition. Many of the more rural New Jersey counties have also instituted their own park and open space systems. In such cases an effort has been made to retain more of the natural character of the environment and such facilities are often developed in conjunction with other county needs.

County facilities should be located in such a manner as to afford relatively easy access by car or public transportation for a population which may use the parks several times a month. Facilities maintained by county governments are less likely to be as user-oriented as those at the municipal level, although as has been pointed out, county parks are assuming a more active recreational character. However, more attention is being given by counties to larger scenic sites often in conjunction with reservoir facilities, stream valleys or other natural resource areas.

The foregoing discussion of county open space facilities suggests a secondary area of responsibility which county governments may be called upon to assume with greater frequency in the future. This relates to the provision of intermunicipal facilities as a part of the over-all county open space system. With the fragmentation of the State into 567 separate municipal units, it becomes economically ill-advised to attempt to meet all of the local park demands on an individual municipal basis. Many smaller communities lack the resources (both financial and physical) to provide for various recreational facilities which (in concert with neighboring communities) could be developed through intermunicipal cooperation. Such recreational facilities might be developed along the boundaries of two or more municipalities (which is particularly appropriate since stream courses often serve as municipal boundaries and thus a multi-purpose approach—including recreation and flood protection—could be achieved). Intermunicipal facilities also might be completely contained within the boundaries of a single municipality but designed so as to serve the recreational needs of several municipalities.

In fostering this intermunicipal approach to recreational facilities, the county must play a key role in providing the leadership and encouragement for such development and, where appropriate, by providing planning and financial assistance to local municipalities. Such intermunicipal open space can provide an effective "shaper" of county-wide development by guiding land use along certain desirable patterns. Therefore, it is proposed that the acquisition and development of appropriate intermunicipal facilities should properly be considered as an extension of the county's open space responsibilities.

THE OPEN SPACE RESPONSIBILITIES OF THE STATE

The state has the primary responsibility of acquiring, developing, and maintaining recreational and open space resources which are neither of national interest on the one hand nor a county or municipal responsibility on the other. State parks differ from national parks in both their drawing power and their distribution with regard to the proximity to the population to be served. Most state parks are limited in patronage to residents of the sponsoring or neighboring states. While people may visit a national park only a few times in a lifetime, if at all, it is practical to enjoy state recreational facilities several times in a single year. With regard to distribution, some states have been able to acquire and maintain a major state recreational facility within twenty-five miles of every urban center of any size. However, an average distribution of state facilities is on the order of thirty to forty miles. In recent years, it has been recognized that accessibility (measured in travel time rather than distance) is an important consideration in locating state parks. Such an objective which provides for the development of a state recreation facility within 45 minutes to an hour travel time by car or public transportation for each resident of a major urban center, reflects the growing awareness that people living in cities must have access to an adequate system of open space for their leisure time activities.

The primary role of the state's recreation areas is to provide nature-centered experiences for its citizens. The state seeks to provide a well distributed and accessible system of parks and open space, including scenic, historic, and geologic sites that are of statewide significance. State facilities should provide a variety of informal types of recreational activities and interests, facilities and accommodations for camping, picnicking, hunting and fishing, and generally bring the public into contact with the state's natural resources so they may learn to enjoy and assist in conserving them.

The state's open space system is largely resource based. The primary consideration in site selection has been the natural resource or scenic qualities of the site itself, and secondarily, the proximity of the site to population centers. Consequently, much less of the state park system will be devoted to developed recreational facilities than is the case at the county level. However, as with the counties, it may be anticipated that the state will be called upon to assume a secondary responsibility in the provision of open space facilities designed to serve an intercounty or regional function. Since many county boundaries in the State are natural waterways which offer the potential for recreational areas, and because of the costs and administrative problems involved in the development of such areas, it is logical that the responsibility for this type of intercounty park should go to the next higher level of government. Such facilities would be primarily of regional significance serving the population of a given sector of the state rather than the state as a whole.

THE FEDERAL LEVEL

The primary responsibility at the Federal level of government is the maintenance of a recreational and open space system which embraces areas and sites of national interest and concern. National parks should contain magnificent and rare natural wonders, scenery of grandeur and unique natural characteristics, while national forests should consist of areas of large expanse meriting forestation and conservation. The Great Smokies and the Grand Canyon are examples of such areas which have been set aside and are protected by the Federal government for the use and enjoyment of the nation as a whole. In addition, historic sites of national importance, places of great battles, birthplaces or homes of national heroes, scenes of pioneer events and places of discovery and invention all merit national significance and, therefore, preservation by the Federal government.

With few exceptions, areas incorporated into the national park system are located at great distances from the major concentrations of population. These areas represent the ultimate in resource-based facilities. User accessibility is not a consideration in such cases and, in fact, it has been estimated that many portions of Federal open space holdings are totally inaccessible by automobile.

The Federal government, like the state and county, must be expected to assume a secondary responsibility in the provision of an overall national system of open space. This secondary responsibility has arisen because of the unique forms of population concentrations which have resulted from the nation-wide trend toward urbanization. In many instances, urban areas are no longer separated from one another by undeveloped areas, but the outward spread of development from one metropolitan area has merged with that of the next. The best example of this is along the eastern seaboard of the United States where one relatively continuous belt of urbanization extends from southern Maine to northern Virginia. New Jersey is in the center of this immense urban region called "Megalopolis." The Federal government must assume the responsibility for providing sizable regional parks for these large urban concentrations. An example of new Federal policy in this regard is the Delaware Water Gap National Recreation Area now being purchased for the upper Delaware River. DWGNRA will be within 75 miles of 20,000,000 people and 100 miles of 30,000,000. In addition, one-third of the national population will be within one day's driving time of the project. Other possible recreational areas that are examples of where Federal responsibility could be or is being exercised are the Pocono, Catskill and Berkshire mountains, the Intra-coastal Waterway, and sizable ocean beaches.

Also included in this secondary level of Federal responsibility is the provision of open space facilities in more immediate proximity to major urban concentrations. Just as there are open space needs at the intermunicipal and intercounty levels which should be met through cooperative efforts of the appropriate levels of government, in major metropolitan areas there exists a regional or interstate need which must be fulfilled through cooperation between appropriate Federal and state agencies. The Federal Open Space Program administered by the Department of Housing and Urban Development provides fifty percent of the total cost for the acquisition of land for open space facilities to agencies having regional open space responsibilities. In recognition of this secondary responsibility, in 1963 the President's Recreational Advisory Council endorsed the establishment of a system of National Recreation Areas designed to include areas of above average natural endowment but with less significance than the unique scenic and historic elements of National Parks or of less resource value than National Forests and land management areas. National Recreation Areas will augment present outdoor recreation areas, especially in localities where the recreational demand is not currently being adequately met. They will be managed by one or more existing Federal agencies or under State-Federal agreements. In announcing this program, Secretary of the Interior Udall stated:[3]

> The policy provides for Federal investment in areas primarily needed to satisfy outdoor recreation demands as contrasted with other areas established primarily to preserve unique natural or historic resources, to develop or conserve public lands and forests, or to meet requirements for water resources development . . .

The Quantitative Aspects of Governmental Responsibilities

Over the years, numerous attempts have been made to quantify the functional responsibilities which each level of government must assume as a part of the total open space system. Such guides for evaluating existing facilities and for future facilities are called standards. As Webster's Dictionary defines it, a standard is: "a criteria, guage, yardstick, or touchstone; a policy; an abstraction; an authoritative model or measure; a pattern for guidance, by comparison with which the quantity, excellence, correctness of other things may be determined."

Open space standards are usually expressed in terms of a given number of acres per unit of population. Not all forms of recreation can be equated to a quantitative standard, however. For example, according to the studies of ORRRC, driving for pleasure is the nation's number one ranking recreational activity.

Such leisure-time pursuits are difficult if not impossible to quantify. It becomes obvious that the development of a standard or standards for open space needs must be limited to those aspects of anticipated land requirements that can be stated quantitatively. At the same time, however, the qualitative aspects of open space must play an important role in the selection of future open space areas.

There are at least two types of standards that can be effectively used to assist in determining how much open space political jurisdictions should strive to acquire and maintain. One standard is based upon a ratio between people and acres of open space, the other is based upon attempts to create a balanced land use pattern.

A number of recreational standards of the former type have been developed by nationally recognized recreational groups, planning organizations, and governmental agencies. Such standards for active and passive recreational facilities have been applied most frequently at the local level. There has been considerable experience and research at the municipal level as to how far different age groups will travel for recreation and how much area is needed for their activities. Many master plans for cities of varying sizes have adopted standards, and research on local standards has been carried out by many groups and agencies. However, each of these standards was formulated to apply to a unique situation, and none can be used alone to guide all levels of government.

Only in more recent years has a start been made on the development of technically sound standards for county, state and national levels of responsibility. It may be that much time will pass before sufficient research will be made to complete a set of standards generally acceptable to all levels of government, especially the state and county levels. For instance, much research is needed in order to define the proper acreage per user ratios for wilderness areas, hunting and fishing areas and camp sites.

While recreational standards based on acres per thousand population provide useful guides to assist the various levels of government in their appraisal of existing conditions and future needs, such standards make no attempt to limit or define the amount of land which can be justified as open space in highly urbanized areas. The following example illustrates the shortcomings of applying an acres per-thousand population standard in urban areas. It would require over 2,760 acres of land to meet a 10 acres per thousand standard in Jersey City. This acreage would be equal to nearly one-third of the total land area of this city.

The second type of recreational standard—the balanced land use standard—suggests that in the more urbanized regions of the country it is necessary to establish standards which are based on a specific percentage of a given land area to be dedicated to recreational and conservation usage regardless of population density.

The following two sections of this chapter will examine each type of standard as it might be applied to the open space needs of New Jersey.

POPULATION STANDARDS

Acreage-population recreational standards have been discussed at length in a study undertaken by the Division of State and Regional Planning as a part of the Inventory Stage of the Statewide Planning Program. This study, entitled *Park and Recreational Land Use in New Jersey*, examined existing population standards and attempted to formulate suitable and achievable recreation standards for the local, county, and state levels of government by combining the best features of these various standards. The results of this analysis are provided in Table I.

In light of the highly developed nature of many municipalities in New Jersey, the most universally accepted quoted standard of 10 acres per thousand is somewhat more than could be easily achieved at the local level. Recognizing the secondary responsibility of the county level, as discussed in the previous section, the 2 acres per 1,000 persons to be devoted to the larger municipal parks was transferred to the county, leaving 8 acres per thousand at the local level to be distributed as shown in Table I.

It was the general concensus of the various standards examined that the county level of government should provide a minimum of 10 acres per thousand population. With the addition of the 2 acres per thousand transferred from the municipal level, the suggested county standard becomes 12 acres per thousand of the county's population. This acreage standard is distributed as shown in Table I, with the secondary function of providing intermunicipal facilities at 4 acres per thousand. This leaves 8 acres per thousand for countywide recreation facilities.

Table I

SUGGESTED ACREAGE STANDARDS BASED ON LEVEL OF GOVERNMENT RESPONSIBILITY

Level of Government	Acres Per Thousand
MUNICIPAL	
Totlots & Playgrounds	1.5 acres
Playfields	1.5 acres
Neighborhood & Community Parks	5.0 acres
	8.0 acres
COUNTY	
Active Recreation (Golf Courses, Playfields, etc.)	3.75 acres
Swimming & Boating	1.25 acres
Picnicking	3.00 acres
Parks and Natural Areas	4.00 acres
	12.00 acres
STATE	
Medium to High Intensive Use Areas (Intercounty)	4.0 acres
Low Intensive Use Areas (State Parks & Forest, Fish and Game Lands, etc.)	20.0 acres
	24.0 acres

Since very little work had been undertaken in the area of state standards, the suggested quantitative guidelines had to be derived somewhat independently of existing concepts. The National Park Service has suggested a standard of 45 acres per thousand to include both state recreational areas and land management holdings. This total is divided 15 acres per thousand for more intensive recreational areas and 30 acres per thousand for natural areas. While such a standard provides a general rule-of-thumb in the more urban states such as New Jersey, it is becoming increasingly difficult to quantify the amount of open space that should be reserved for conservation purposes. In such states, an active program of acquisition and protection must be initiated to protect even the minimum amount of natural resource lands. Therefore, in developing an open space standard for New Jersey, the assumption was made that at least 20 acres per thousand persons should be set aside for statewide recreational facilities. Again in fulfillment of its secondary function it is suggested that an additional 4 acres per thousand be assumed as a State responsibility in the form of more intensely developed intercounty recreational areas.

The previously mentioned study, *Park and Recreational Land Use in New Jersey,* made no recommendations as to quantitative recreational standards for the Federal level of government. Again the National Park Service has provided a suggested standard based on both recreational facilities and land management areas. As with the NPS standard for state open space, this suggested standard of 300 acres per thousand is split two ways. One-third for recreational open space and two-thirds for wilderness areas. Reflecting the previous discussion of the functional aspects of Federal open space responsibilities, it is suggested that as a minimum between 48 and 52 acres per thousand persons of the Federal recreational facilities should be developed in such a manner as to be accessible to the large concentrations of population along the eastern seaboard. It is further suggested that this standard be divided as follows: 1) approximately 32-36 acres per thousand (based on a region-wide population figure) to satisfy the primary responsibility of the Federal level of protecting outstanding natural features; 2) 12 acres per thousand to be devoted to large regional parks designed to serve a megalopolitan population, related to New Jersey's share of the megalopolitan population, (such as the Delaware Water Gap National Recreation Area); and, 3) 4 acres per thousand to meet metropolitan or interstate recreational needs.

Thus, with this suggested acreage-population standard, it is possible to complete the quantitative aspects of governmental responsibilities as they relate to New Jersey.

Table II

SUGGESTED OPEN SPACE ACREAGE STANDARDS PER THOUSAND PERSONS FOR APPLICATION IN NEW JERSEY

Level of Primary Responsibility	Acres Per Thousand Persons
Local	8 acres
County and Local (Inter-Municipal Open Space)	4 acres
County	8 acres
State and County (Inter-County Open Space)	4 acres
State	20 acres
Federal and State (Inter-State Open Space)	4 acres
Federal	12 acres
Total	60 acres

BALANCED LAND USE STANDARDS

As has been pointed out, recreation standards based on a fixed acreage per unit of population have certain limitations when they are applied to highly urbanized patterns of development. Since such standards are increasing, that is, they suggest a continually increasing portion of the environment to be set aside for recreational facilities as the population increases, acreage-population standards break down beyond a certain level of population density. For example, applying a 12 acres per thousand standard to a hypothetical community two-square miles in area and with a population density of 2000 persons per square mile would suggest that 48 acres of land or about 3.75 percent of the community's total land area should be reserved for recreational purposes. If, however, the density of the community were 4000 persons per square mile, 96 acres or about 7.5 percent of the community should be set aside for open space. At 10,000 persons per square mile, a population density common to many of our urban communities, some 240 acres would be required, an amount equal to over 18 percent of the community. If this much land were to be devoted to open space, competition among other land uses in seeking suitable locations would be acute. Therefore, an alternative basis must be devised for determining what constitutes a reasonable pattern of open space in the more densely populated areas which implies more intensively used areas. Since forecasts suggest that many sectors of the State will ultimately reach higher levels of population density, a long-range open space policy plan must apply a "standard" which is applicable to such situations. The basis for such standards would appear to lie in the theories of balanced land use systems.

Many attempts have been made to formulate a balanced system of land uses. In the 1920's, Harland Bartholomew, a much quoted authority in the field of planning, advanced certain theories as to the desirable apportionment of the various land use functions of a community. Since that time other planners, economists, housing experts, regional scientists, etc. have studied this problem. The purpose of an ideal apportionment would be to achieve a balance of land uses which could be mutually self supporting, thereby making the unit economically self-sustaining.

The more recent writings of Harland Bartholomew on the subject of a balanced land use system illustrate the extensive modifications and refinements which have gone into writings in the field since the concept was first advanced. In his 1955 book,[4] Bartholomew attempted to establish a set of averages for the various land use classifications in developed areas based on a survey of 86 American cities and eleven urban areas. He divided the cities under two headings: 1) the "center city," or self-sufficient municipality in which the major social and economic activities of an urban area are centered; and, 2) the "satellite city," or the community adjacent to a larger municipality, which is dependent upon the larger center for its economic and cultural well-being. Thus, Bartholomew has recognized the resultant distinction in land use patterns which emerge from the functional differences in communities. For example, in the satellite communities, there is a greater prevalence of residential development, especially single family dwellings, while in the center city, a greater portion of land has been set aside for industry and commerce.

The second important modification in Bartholomew's more recent writings is the recognition of the potential application of land use standards to a unit of analysis other than the fixed boundaries of a political or governmental unit. Bartholomew's "urban area" includes the central city, its satellite communities, and all of the developed area within the urban sphere of influence. On a regional basis (as opposed to municipal boundaries) an analysis of the percentage of land use begins to assume more importance. Certain land uses such as residences, industry, and open space, shape development patterns while other uses are subordinate to them. Therefore, by working with regional areas, wide variations in categories which plagued earlier attempts to develop a balanced distribution of land uses, can be minimized, thereby making it possible to advance certain land use assumptions which would be more applicable to an ultimate pattern of development.

Although the predominence of mid-western cities in the sample introduces a bias with regard to the application of Bartholomew's findings to New Jersey, they provide a substantial foundation for developing land use standards which can be applied to the State. While these theories, at this point, must be considered preliminary in nature, it is hoped that they will provide the missing element in the long-range allocation of open space in New Jersey.

Generally speaking, the basic land use categories can be grouped under three headings: residential, transportation, and other (which includes commerce, industry, and, public facilities).Residential land uses occupy the single largest segment of the developed portion of any urban region, ranging between 30 and 40 percent. Streets and railroads rank a close second, ranging from 25 to 38 percent of the development.

In an ultimate pattern of development, it is reasonable to assume that these two basic land use categories will begin to reach equilibrium, with each category occupying about a third of the developable portion of the environment. Thus, the remaining land use categories must be accommodated on the remaining one-third of the land area. The remaining one-third must accommodate all of the industry and commercial activities which provide the economic base of the region and meet its retail and service needs, all of the schools and other public buildings, all of the semi-public facilities, utilities, and of prime concern to this study, all of the "more intensively developed" recreational and open space areas. In any region there are marginal lands which cannot economically support many forms of land use other than open space. However, as has been pointed out, the more intensively developed or user-oriented forms of recreational facilities should be in close proximity to the population served and, in many cases, must occupy developable land.

In order to insure sufficient lands for industrial growth and expansion, it is suggested that a minimum of 7 percent of the developable area of a region should be set aside for industrial land use. This, of course, will vary from the more urban portions to the suburban areas, but again it must be stressed that this allocation is made as an average for the entire urban region. Commercial facilities may be expected to occupy some 3 percent of the developable portion of the region. Past experience indicates that between 10 and 15 percent of an urban region must be reserved for schools, public buildings, semi-public facilities, and utilities. On this basis, with theoretical needs of each of the various forms of land use apportioned, only 10 percent of the developable land area remains for public open space.

In the highly urbanized portions of the State, 10 percent of the developable land for open space may seem an allottment which would not be easily obtained either physically or economically. However, the provision of recreational opportunities for our urban citizens and for their children's children is one of the most important of the many objectives of planning. With urban renewal and the higher uses of land which it promotes, it is possible to design an urban open space system which complements development and which, at the same time, indirectly provides an economic return far greater than the land uses it displaces.

The balanced land use patterns suggested by the foregoing discussion are presented in Table III and summarized as a theoretical balance in Chart I. It is of interest to note that roughly 50 percent of the land use is in private ownership, while the other fifty percent is generally in public ownership.

Of the various land use categories, open space and recreational areas are by far the most variable, for it is a qualitative issue as much as it is quantitative. A poorly designed and inaccessible open space system occupying as much as twenty percent of the total developable land area of an urban region would be less desirable than a smaller system which is closely integrated with the other forms of land use, thereby providing ample opportunity for a variety of recreation experiences to the maximum number of the population.

In urban areas, open space considerations must be dominated by those facilities which serve the younger segments of the population (totlots, playgrounds, and playfields) and those which serve a passive recreational need (neighborhood and community parks). In suburban areas, there is a lesser demand for youth-oriented facilities, since backyards and schools may adequately serve this function, however, there is a greater need and opportunity to acquire larger segments of the landscape for nature-oriented and general purpose recreational activities.

These theories of balanced land use must now be converted into a recreational standard to be applied at the various governmental levels

Table III

COMPARISON OF BALANCED LAND USE SYSTEMS
(AS A PERCENT OF TOTAL DEVELOPED AREA)

Land Use Category	Segoe[1]	Webster[2]	Bartholomew[3]		
			Central City	Satellite City	Urban Areas
Residential	40.0%	40.0%	39.61%	41.98%	27.99%
Single-family		32.0	31.81	36.18	25.05
Two-family		8.0	4.79	3.31	1.63
Multi-family			3.01	2.49	1.31
Commercial	3.0	2.0–5.0	3.32	2.54	2.65
Industrial	7.0	10.0–15.0	6.44	7.86	5.64
Light Industry			2.84		1.87
Heavy Industry			3.60		3.77
Railroad Property	4.0	5.0	4.86	4.65	6.22
Streets	30.0	25.0–33.3	28.19	27.67	27.61
Parks and Playgrounds	6.0	10.0	6.74	4.37	4.59
Other Public Property	6.0	4.0–20.0	10.93	10.93	25.30
Semi-Public Property	4.0				
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source:

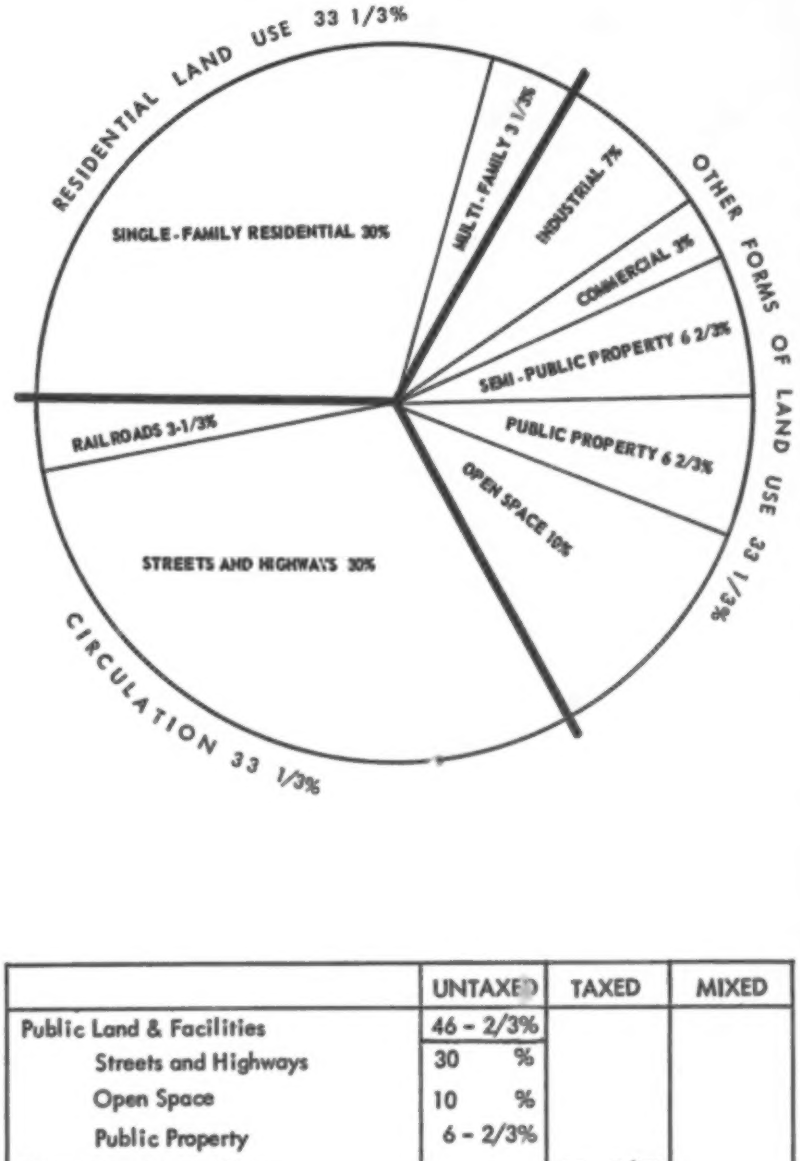
1. Ladislas Segoe, *Local Planning Administration*, (International City Manager's Association, Chicago, 1941).
2. Donald H. Webster, *Urban Planning and Municipal Public Policy*, (Harpers Bros., New York, 1958).
3. Harland Bartholomew, *Land Uses in American Cities*, (Harvard University Press, Cambridge, 1955).

of responsibility. The regional analysis is converted to an analysis of the county and local levels of government. The responsibility for preserving 10 percent of the regional area in open space use is divided between the county (7 percent) and the municipality (3 percent). Of this 7 percent which the county must provide, 2 percent will be devoted to the county's secondary function, the provision of intermunicipal facilities.

Based on this concept approximately 190,000 acres would be put in countywide facilities, 63,000 acres in intermunicipal and 126,000 acres in municipal parks. These rather closely reflect the acreages required by the population standard. At the county and local level, the 10 percent was applied to what has been termed "developable" land area, or that portion of total land area which remains after swamp land and areas of excessive slope (over 12% slope) have been subtracted. It is felt that the preservation of this type of marginal terrain logically falls to the State and Federal levels of government. County and municipal recreational systems are concerned with more intensively developed facilities.

As mentioned above, it has been suggested in the acreage-population standard, that the State should match the acreage provided by the two lower levels. Applying this concept to the theories of balanced land use would suggest that 10 percent of the total land area of the State should be set aside as a State responsibility to match the 10 percent allocated on a regional basis. This 10 percent of State responsibility is allocated between statewide and intercounty facilities in the same proportion as the 24 acres per thousand standard. A ratio of 5 to 1 was used in both cases. As is the case with the 10 percent of open space at the county and local level, 2 percent was allocated for secondary function facilities at the intercounty level and 8 percent for primary function facilities of statewide significance.

Chart 1 BASIC ASSUMPTIONS FOR A BALANCED LAND USE PATTERN



	UNTAXED	TAXED	MIXED
Public Land & Facilities	46 - 2/3%		
Streets and Highways	30 %		
Open Space	10 %		
Public Property	6 - 2/3%		
Private Land & Facilities		46 - 2/3%	
Single Family Residential		30 %	
Industrial		7 %	
Multi-Family		3 - 1/3%	
Railroads		3 - 1/3%	
Commercial		3 %	
Semi-Public Property			6 - 2/3%

In addition, the parallel responsibility of the Federal government cited in the discussion of recreational standards must also be included in the balanced land use theories. Again a review of the relationship between the responsibilities of the local municipalities, the counties, the State and those of the Federal government indicates that the Federal responsibilities are equal to those of the three lower levels of government, or 20 percent of the nation. The majority of this Federal open space will be located in the western portion of the country; however, a portion of this Federal open space should be located in the more densely populated portions of the nation. It is suggested that an area equal to approximately 2 percent of the total land area of megalopolis should be included as a part of the total open space system developed under the theories of balanced land use.

The balanced land use standard as applied to New Jersey at 20 million population is stated below.

FEDERAL RESPONSIBILITY

4 percent of the total area of New Jersey, or 192,000 acres, to be set aside in open space facilities by the Federal government. These parcels should be primarily megalopolitan and metropolitan facilities whose function is to serve the urbanized portion of the eastern seaboard. These facilities are to be part of the Federal government's much broader interests that serve all of megalopolis. A portion of this acreage will be provided in facilities of a metropolitan scope and in the preservation of unique natural or historic areas. This is a responsibility which is shared, however, by Federal and state government.

STATE RESPONSIBILITY

10 percent of the total land area of the State, or 480,000 acres to be set aside in open space facilities by the State of New Jersey. A substantial portion of these facilities should be oriented to serve the areas of population concentration, and thus the acreage must be allocated between the northern and southern portions of the State based upon anticipated population distributions. Of this total, we suggest that 96,000 acres or 2 percent of the total land area of each Class III Region[5] should be assigned to function as intercounty facilities. In addition, a portion of the State's acreage responsibility will be placed in metropolitan park facilities.

COUNTY RESPONSIBILITY

7 percent of the "developable" land area of the State or approximately 266,000 acres will be set aside by the county governments. Of this, 5 percent of the developable area of each county will be placed in county facilities and 2 percent of the developable area will be applied to the Class IV Regions[6] and will serve as intermunicipal parks.

LOCAL RESPONSIBILITY

3 percent of the "developable" area of the State or about 114,000 acres will be placed in municipal facilities to be distributed throughout the State's 567 municipalities.

The following table provides a comparison of the two basic types of standards discussed in this chapter as they might be applied to New Jersey. Both are valid and useful methods of

Table IV

OPEN SPACE STANDARDS APPLIED TO NEW JERSEY

		Acres/1000 Population Standards		Balanced Land Use Standards	
Governmental Level	Functional Level	Standards	Land Required for 20 Million People (acres)	Standards	Land Required for 20 Million People (acres)
Federal	Megalopolitan	12 acres/1000	240,000	2% of total State[b]	96,000
Federal & State	Metropolitan	4 acres/1000	80,000 North[a] 48,000 South 32,000	2% of total State	96,000 North 57,600 South 38,400
State	State	20 acres/1000	400,000 North 240,000 South 160,000	8% of total State	384,000 North 230,400 South 153,600
State & County	Inter-County	4 acres/1000	80,000	2% of total State	96,000
County	County	8 acres/1000	160,000	5% of total State	240,000
County & Local	Inter-Municipal	4 acres/1000	80,000	2% of total State	96,000
Local	Municipal	8 acres/1000	160,000	3% of total State	144,000
Total		60 acres/1000	1,200,000	24% of total State	1,152,000

a. At the 20 million level it is assumed that the population will be distributed 60% North; 40% South.

b. At the 20 million level it is assumed that the State will be totally developed.

assessing open space needs but each has a particular value when applied in certain circumstances. The population-acreage method is most useful in measuring over-all need. It is also a good programming guide for measured periods of time. On the other hand, the balanced land use standard is valuable when applied to specific areas. It serves as a good indicator of needs which are not contingent upon time or population level but rather upon full development.

The point at which the acreage recommended by these two standards coincides is approximately at the 20 million level of population, which has been chosen as the State's planning Horizon. At this point, approximately 1,000,000-1,200,000 acres or slightly more than 20 percent of the land area of the State is required by both the population-acreage standard and the balanced land use standard in order to meet the State's minimum open space needs.

FOOTNOTES

1. National Association of Counties, *County Action for Outdoor Recreation,* (Washington: National Association of Counties, 1964), p. 6.
2. National Park Service, "Recreational Use of Land in the United States," *Part XI of the Report on Land Planning,* (Washington: U.S. Government Printing Office, 1934), p. 30.
3. Stewart L. Udall, Secretary of the Interior U.S. Department of the Interior, *News Release,* April 10, 1963.
4. Harland Bartholomew, *Land Uses in American Cities,* (Cambridge: Harvard University Press, 1955), see generally.
5. Division of State and Regional Planning, *The Setting for Regional Planning in New Jersey,* (Trenton: State of New Jersey, December, 1961), see generally.
6. *Ibid.,* see generally.

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CHAPTER IV

CURRENT AND FUTURE OPEN SPACE NEEDS

As discussed earlier, open space serves different functions and has varying characteristics at the different functional and governmental levels. This chapter will attempt to survey the adequacy of existing open space at each respective level to determine the extent of future open space needs. Functional levels rather than levels of governmental responsibility will be treated separately. Thus, megalopolitan, metropolitan, state, intercounty, county, intermunicipal and municipal levels of open space will be discussed individually with regard to their present adequacy, the acreage needs at the 10 million and 20 million population levels and also the needs indicated by the balanced land use standard for New Jersey's Horizon.

The population standards developed in the preceding chapter will be used to indicate the adequacy of existing open space facilities in New Jersey as well as to determine the extent of needs at the 10 million and 20 million population levels. The balanced land use standards will be applied to indicate the minimum amount of acreage which should be devoted to open space and recreational land use as the State approaches total development. These figures are presented in Tables V, VI, and VII.

Since Intercounty needs are concerned with serving a group of people living in parts of more than one county, the regional areas[1] of New Jersey were used as a basis for distribution of this functional level of open space throughout the State. This is not meant to imply that these regions have any official status, but rather, that they provide a useful basis on which to distribute this particular level of open space.

Table V

NEW JERSEY OPEN SPACE NEEDS FOR 1960, BASED ON ACRES PER 1000 POPULATION STANDARDS

Functional Level (acres/1000 population standard)	Existing Public Open Space, 1960		1960 Population	Open Space Need for 1960 Based on Acres/1,000 Population Standard (acres)	Open Space Acreage Excesses or Deficits for 1960 (acres)
	Unit	Acres			
Megalopolitan (12 acres/1000)	New Jersey Portion	110,576	6,006,780	72,800	+37,800
Metropolitan (4 acres/1000)	New Jersey Portion	17,394	6,066,780	24,270	- 6,900
State (20 acres/1000)	North[a]	56,161	4,832,170	96,640	-40,480
	South	118,663	1,234,610	24,690	+93,970
Inter-County (4 acres/1000)	Distribution Based on 18 Class III Regions				
	Asbury Park-Long Branch-Red Bank	Any existing lands which may be serving this functional level are included in State and county totals.	330,720	1,320	The figure below represents the total deficit for Class III regions.
	Atlantic City-Pleasantville		212,790	850	
	Bridgeton-Millville-Vineland		130,760	520	
	Camden		680,950	2,720	
	Elizabeth		389,830	1,560	
	Hackensack-Englewood		501,730	2,010	
	Jersey City		398,760	1,600	
	Morristown-Dover		255,430	1,020	
	Newark		1,034,750	4,140	
	New Brunswick-Perth Amboy		445,730	1,780	
	Newton-Port Jervis		45,510	180	
	Paterson-Passaic		696,700	2,790	
	Phillipsburg-Easton		92,720	370	
	Plainfield-Somerville		232,970	930	
	Toms River		42,440	170	
	Trenton		363,400	1,450	
	Union City		160,890	640	
	Wilmington		50,700	200	
	Total (Class III Regions)		6,066,780	24,250	-24,250
County (8 acres/1000)	Atlantic	9	160,880	1,290	The figure below represents the total deficit for counties.
	Bergen	3,192	780,260	6,240	
	Burlington	–	224,500	1,800	
	Camden	2,000	392,040	3,140	
	Cape May	–	48,550	390	
	Cumberland	–	160,850	850	
	Essex	4,409	923,550	7,390	
	Gloucester	70	134,840	1,080	
	Hudson	625	610,730	4,890	
	Hunterdon	–	54,111	430	
	Mercer	694	266,390	2,130	
	Middlesex	912	433,860	3,470	
	Monmouth	52	334,401	2,680	
	Morris	2,376	261,610	2,090	
	Ocean	332	108,240	870	
	Passaic	1,076	406,620	3,250	
	Salem	–	58,710	470	
	Somerset	793	143,910	1,150	
	Sussex	–	49,260	390	
	Union	5,121	504,260	4,030	
	Warren	4	63,210	510	
	Total	21,665	6,066,780	48,540	-27,000
Inter-Municipal (4 acres/1000)	85 Class IV Regions	Any existing lands which may be serving this functional level are included in county and municipal totals.	6,066,780	24,300	-24,300
Municipal (8 acres/1000)	567 Municipalities	17,400	6,066,078	48,500	-31,100

[a] Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union and Warren Counties constitute the North.

Table VI

NEW JERSEY OPEN SPACE NEEDS, BASED ON LAND USE STANDARDS

Functional Level (land use standards)	Existing Open Space, 1960		Land Area (acres)	Open Space Need Based on Land Use Standards (acres)	Open Space Acreage Excess or Deficits (acres)
	Unit	Acres			
Megalopolitan (2% of total land area)	New Jersey Portion	110,567	4,806,090	96,120	-14,456
Metropolitan (2% of total land area)	New Jersey Portion	17,394	4,806,090	96,120	-78,726
State (8% of total land area)	North	56,161	2,446,150	195,692	-149,531
	South	118,763	2,359,940	188,795	-70,032
Inter–County (2% of total land area)	18 Class III Regions				
	Asbury Park-Long Branch-Red Bank	Any existing lands which may be serving this functional level are included in State and county totals.	328,640	6,570	The figure below represents the total deficits for Class III Regions.
	Atlantic City- Pleasantville		698,660	13,970	
	Bridgeton-Millville-Vineland		442,820	8,860	
	Camden		654,960	13,100	
	Elizabeth		45,240	900	
	Hackensack-Englewood		77,750	1,560	
	Jersey City		12,220	244	
	Morristown-Dover		322,500	6,450	
	Newark		100,190	2,000	
	New Brunswick-Perth Amboy		214,210	4,280	
	Newton-Port Jervis		374,590	7,490	
	Paterson-Passaic		217,920	4,360	
	Phillipsburg-Easton		368,580	7,370	
	Plainfield-Somerville		157,630	3,150	
	Toms River		203,450	4,070	
	Trenton		412,000	8,240	
	Union City		9,220	184	
	Wilmington		165,510	3,310	
	Total (Class III Regions)		4,806,090	96,100	-96,100
County (5% of developable land area)	Atlantic	9	286,650	14,330	The figure below represents the total deficits for counties.
	Bergen	3,192	113,920	5,700	
	Burlington	–	462,530	23,130	
	Camden	2,000	131,060	6,550	
	Cape May	–	111,940	5,600	
	Cumberland	–	253,550	12,680	
	Essex	4,409	62,440	3,120	
	Gloucester	70	192,130	9,610	
	Hudson	625	18,990	950	
	Hunterdon	–	220,520	11,030	
	Mercer	694	135,280	6,760	
	Middlesex	912	182,480	9,120	
	Monmouth	52	277,480	13,870	
	Morris	2,376	195,830	9,790	
	Ocean	332	328,940	16,450	
	Passaic	1,076	73,330	3,670	
	Salem	–	188,810	9,440	
	Somerset	793	170,870	8,540	
	Sussex	–	188,040	9,400	
	Union	5,121	56.750	2,840	
	Warren	4	149,230	7,460	
	Total	21,665	3,800,770	190,010	-168,300
Inter-Municipal (2% of developable land area)	85 (Class IV Regions)	Any existing lands which may be serving this functional level are included in county and municipal totals.	3,800,770	76,000	-76,000
Municipal (3% of developable land area)	567 Municipalities	17,400	3,800,770	114,000	-96,600

Table VII

NEW JERSEY OPEN SPACE NEEDS AT THE 10 MILLION POPULATION LEVEL (BASED ON ACRES/1000 POPULATION STANDARDS)

Functional Level (acres/1000 standard)	Existing Open Space, 1960		Land Required for 10 Million People (acres)
	Unit	Acres	
Megalopolitan (12 acres/1000)	New Jersey Portion	110,576	120,000
Metropolitan (4 acres/1000)	New Jersey Portion	17,394	40,000
		North 11,778	North[a] 30,000
		South 5,616	South 10,000
State (20 acres/1000)	New Jersey	174,824	200,000
		North 56,161	North 150,000
		South 118,663	South 50,000
Inter-County (4 acres/1000)	18 Class III Regions	– – –	40,000
County (8 acres/1000)	21 Counties	21,665	80,000
Inter-Municipal (4 acres/1000)	85 Class IV Regions	– – –	40,000
Municipal (8 acres/1000)	567 Municipalities	17,400	80,000
Total		341,859	600,000

a. At the 10 Million level it is assumed that the population will be distributed 75% North; 25% South.

Open Space Needs at the Megalopolitan Level

PRESENT SUPPLY OF OPEN SPACE FACILITIES

Megapolitan open space areas are large regional facilities designed to service the population of the State in the Northeast Corridor region. This 53,575 square mile urban area stretching from southern New Hampshire to northern Virginia presently houses about 37 million people.[2] These heavy concentrations of population distributed over ten states give rise to unique recreational needs which are best satisfied by the Federal government. This responsibility is generally fulfilled through the provision of large natural and recreational facilities within relatively easy access of megalopolitan inhabitants.

The selection of what might be classed as a group of facilities having potential megalopolitan significance are listed in Table VIII below with their acreages.[3]

Based on the population standard, enough areas can be identified to fulfill the apparent current need in megalopolis as a whole, however, this should not preclude additions of unique areas and areas of future need. Sites identified in New Jersey currently amount to 37,000 acres more than the approximate 73,000 acres computed from the 12 acres/1000 standard. However, these are also serving other functional levels.

NEEDS AND PROPOSALS FOR THE FUTURE

As illustrated in Table VII, the New Jersey portion of megalopolis will need to provide some 120,000 acres of recreational land by the time the State's population reaches 10 million. At the 20 million population level, 240,000 acres will be necessary to fulfill the megalopolitan recreational needs. When the balanced land use standard of 2 percent of total area is applied to the New Jersey portion of megalopolis, a smaller amount of open space acreage, 96,120, appears to be necessary (see table VI). According to the standard 697,000 acres would be needed in all of megalopolis.

At the megalopolitan level the major current Federal proposals which will help to fulfill these needs are: Delaware Water Gap National Recreation Area, Assateague National Seashore, Chesapeake and Ohio National Historical Park, and Elizabeth Islands in Massachusetts. The major one, partially within the State's boundaries, would be the Delaware Water Gap National Recreation Area. This facility will encompass over 70,000 acres with more than 20,000 acres of water for recreational use in both New Jersey and Pennsylvania. It is expected that DWGNRA will draw heavily from points up to 100 miles away and to a lesser extent from distances beyond 100 miles. An estimated 20 million people, or 11 percent of the national population, reside within a 75 mile radius of the project site which is projected to have over 10,000,000 visitor-days of use annually.

Another possibility located entirely in New Jersey would be an Intracoastal Waterway Recreation Area encompassing the Federal waterway. The Intracoastal Waterway proposal extends from New York Harbor to Delaware Bay and its banks are presently owned by various municipalities and private individuals. It contains one of the most valuable concentrations of coastal marsh in the United States.

Table VIII

EXISTING OPEN SPACE FACILITIES HAVING MEGALOPOLITAN SIGNIFICANCE

Facility	Acres
NEW JERSEY SHORE	
Island Beach State Park	2,690
Brigantine-Holgate National Wildlife Refuge (Fed.)	14,233
Intracoastal Waterway (Fed.)	- -
CENTRAL NEW JERSEY	
Wharton Tract (State)	95,280
NEW YORK-LONG ISLAND	
Fire Island National Seashore	5,700
EAST CENTRAL NEW YORK	
Catskill Forest Preserve	235,262
TRI-STATE AREA-CONN., MASS., N.Y.	
Taconic State Park (N.Y.)	6,202
Mt. Everett State Reservation (Mass)	1,216
Bash Bish Falls Forest (Mass)	390
Mt. Riga State Park (Conn)	271
CENTRAL CONNECTICUT-SOUTH CENTRAL MASS.	
Peoples State Forest (Conn)	2,994
Tunxis State Forest (Conn)	3,178
Algonquin State Forest (Conn)	1,465
American Legion State Forest (Conn)	802
Granville State Forest (Mass)	2,232
EASTERN CONN - WESTERN R.I.	
Pachaug State Forest (Conn)	22,474
Arcadia State Forest (R.I.)	7,634
Beach Pond State Park (R.I.)	3,200
SOUTHERN MASSACHUSETTS	
Cape Cod National Seashore Rec. Area (Fed.)	26,666
NORTH CENTRAL MASSACHUSETTS	
Erving State Forest	5,500
Mt. Grace State Forest	1,100
Warwick State Forest	4,567
Wendell State Forest	6,610
Subtotal (Omitting Intracoastal Waterway)	449,666
NORTHWESTERN MASSACHUSETTS	
Mohawk Trail State Forest	6,080
Monroe State Forest	4,029
Savoy State Forest	10,705
NORTHEASTERN PENNSYLVANIA	
Delaware State Forest	75,501
Promised Land State Park	1,694
Pike County Fish and Game Lands	12,603
EAST CENTRAL PENNSYLVANIA	
Fish and Game Lands in Dauphin & Lebanon Counties	47,442
SOUTH CENTRAL PENNSYLVANIA	
Michaux State Forest	80,745
Mount Alto State Park	17
Caledonia State Park	1,365
Pine Grove Furnace State Park	585
NORTH CENTRAL MARYLAND	
Catocin Mtn. Park (Fed.)	5,746
Cunningham Falls State Forest	4,447
Frederick City Municipal Forest	4,704
Gambrill State Park	1,138
NORTHERN VIRGINIA	
Prince William Forest Park (Fed.)	12,215
NORTHEASTERN MD. - NORTHERN DELAWARE	
Elk Neck State Forest (Md)	3,762
Chesapeake & Delaware Canal (Md. - Del. - Fed.)	5,500
EASTERN MARYLAND - EASTERN VIRGINIA	
Chincoteague National Wildlife Refuge (Fed.)	9,448
DELAWARE SHORE	
Bombay Hook National Wildlife Refuge (Fed.)	13,180
Woodland Beach Wildlife Area	5,000
Little Creek Wildlife Area	2,529
Subtotal	308,435
Grand Total (Omitting Intracoastal Water)	758,101

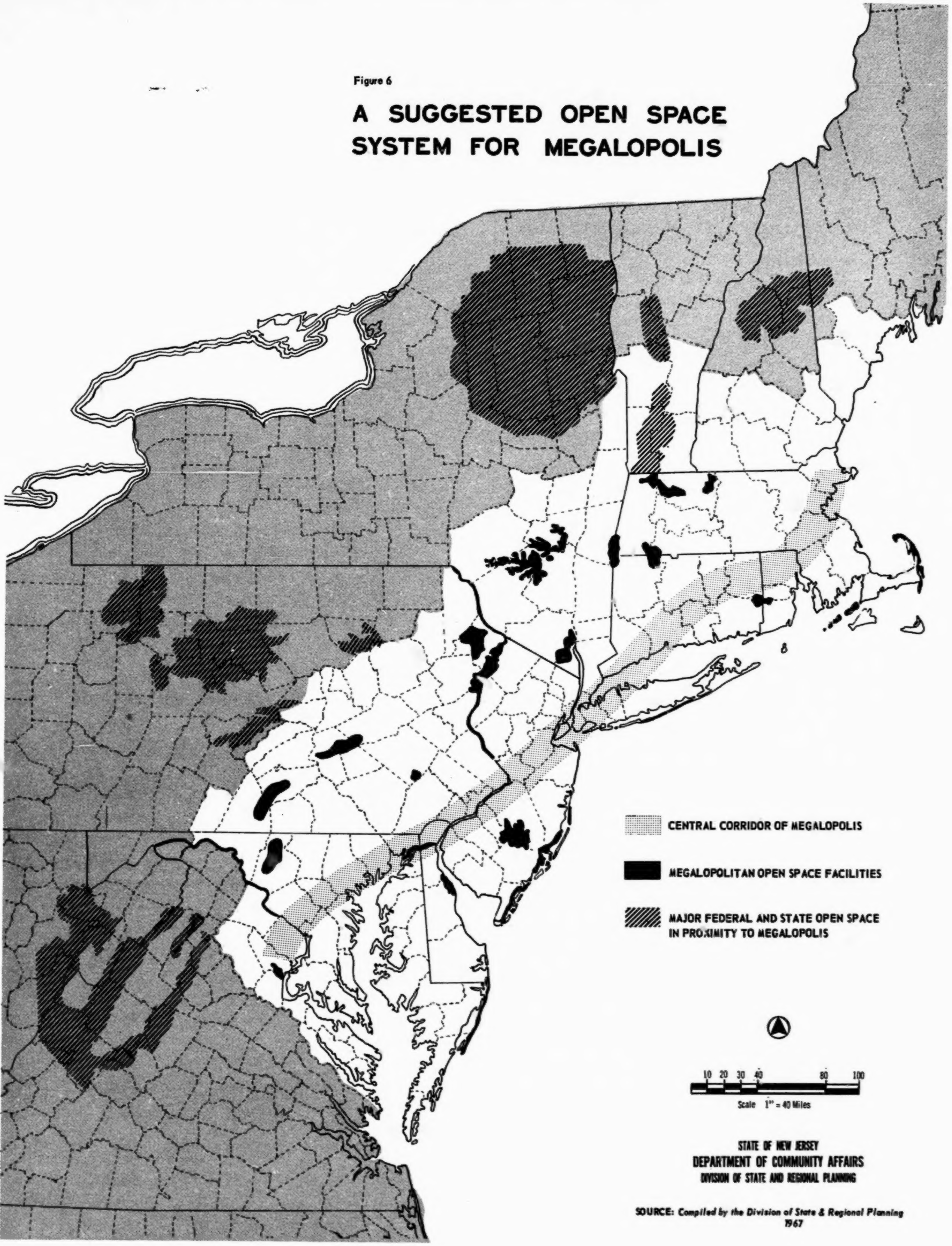
Table IX

PROPOSED OPEN SPACE FACILITIES HAVING MEGALOPOLITAN SIGNIFICANCE

Facility	Acres
NEW JERSEY SHORE (ADDITIONS)	
Great Bay	16,967
North Brigantine	908
Atlantic City Marshlands	4,333
Multi-purpose Water Management Areas (Cape May County)	16,397
NORTHWEST NEW JERSEY – NORTHERN PENN.	
Delaware Water Gap Nat'l. Recreation Area (Being acquired)	72,000
(New Jersey Portion)	(44,000)
NEW JERSEY-PENNSYLVANIA (NEW)	
Delaware River (Trenton to the Delaware Water Gap)	5,000
SOUTHEASTERN MASSACHUSETTS (NEW)	
Elizabeth Islands (Fed.)	10,000
NORTHWESTERN MASSACHUSETTS (ADDITIONS)	
Upper Deerfield Valley	12,200
NORTH CENTRAL MARYLAND (ADDITIONS)	
Monocacy Reservoir No. 2	26,900
South Mountain	15,000
EASTERN MARYLAND-EASTERN VIRGINIA (NEW)	
Assateague National Seashore (Now authorized)	23,000
CENTRAL MARYLAND	
Chesapeake & Ohio National Historical Park	15,000
TRI-STATE AREA – CONN., MASS., NEW YORK	
Taconic Tri-State (Mass.)	16,000
Taconic Tri-State (Conn.)	15,000
Total	248,705

Figure 6

A SUGGESTED OPEN SPACE SYSTEM FOR MEGALOPOLIS


CENTRAL CORRIDOR OF MEGALOPOLIS
MEGALOPOLITAN OPEN SPACE FACILITIES
MAJOR FEDERAL AND STATE OPEN SPACE IN PROXIMITY TO MEGALOPOLIS
10 20 30 40 80 100
Scale 1" = 40 Miles

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING

SOURCE: *Compiled by the Division of State & Regional Planning 1967*

Open Space Needs at the Metropolitan Level

The next level below megalopolitan needs would be the interstate or metropolitan, which basically serves large urban centers. The type of facility, whose specific purpose is to serve the Class I Regions[4] of New York and Philadelphia, will be considered. The provisions of these metropolitan facilities should be a joint responsibility of the Federal and State government.

In New Jersey, the parcels which we identify as metropolitan consist primarily of federally-owned wildlife refuges and State-owned parklands particularly accessible to metropolitan centers. These are listed below.

Table X

EXISTING OPEN SPACE IN NEW JERSEY SERVING A METROPOLITAN FUNCTION, 1960

Facility	Acres
New York Class I Region	
Palisades Interstate Park	1,900
Great Swamp National Wildlife Refuge	5,900
Morristown National Historic Park	960
Telegraph Hill (New Jersey Highway Authority)	328
Cheesequake State Park	960
Sandy Hook State Park	1,730
Total	11,778
Philadelphia Class I Region	
Parvin State Park	1,036
Washington Crossing State Park	720
Killcohook National Wildlife Refuge	3,860
Total	5,616
TOTAL	17,394

A total of 17,397 acres have been classified as serving a metropolitan function, 11,781 acres located in the New York Class I Region and 5,616 acres in the Philadelphia Class I Region. Approximately 80,000 acres should be made available to the populations of these two Class I Regions. Table XI lists those parcels of open space and recreation land which will serve a metropolitan function and which are presently in the process of being acquired through the Green Acres Program. A total of 35,190 acres are included in this group of facilities.

Table XI

OPEN SPACE SERVING A METROPOLITAN FUNCTION CURRENTLY BEING ACQUIRED THROUGH THE GREEN ACRES ACQUISITION PROGRAM OF NEW JERSEY

Facility	Acres
New York Class I Region	
Cheesequake State Park Extension	2,450
Great Piece Meadows	3,390
Liberty Park	470
Monmouth Battlefield	1,480
Millstone River	1,740
Palisades Park Extension	360
Wawayanda	10,780
Pigeon Swamp	3,250
Troy Meadows	2,600
Total	26,520
Philadelphia Class I Region	
Assunpink	4,970
Inskips	1,790
Rancocas	1,670
Washington Crossing Additions	450
Duck Island	1,460
Total	10,340
TOTAL	36,860

These have a metropolitan significance and this suggests a major federal responsibility and participation in acquisition and development.

If all of the above mentioned parcels are acquired and incorporated into a metropolitan open space system, an additional 17,800 acres will be needed to fulfill the 80,000 acres required at the 20 million population level.

Open Space Needs at the State Level

PRESENT SUPPLY OF OPEN SPACE FACILITIES

The State is responsible for acquiring, developing and making available statewide recreation facilities to provide nature-oriented experiences for its own citizens in the form of a well distributed and accessible system of parks, scenic, historic and geological sites, etc.

The State of New Jersey presently owns approximately 300,000 acres of open space. Excluding State-owned land (which might be classified as either megalopolitan or metropolitan open space in terms of the service which it might provide) the remainder totals about 172, 800 acres to meet present State and intercounty needs. The 172,800 acres consists primarily of State parks, forests, and fish and game lands. Approximately eighty percent of this acreage is located in the more sparsely populated southern half of the State and away from the heavily urbanized northeast sector.

When the population standard of 20 acres per thousand is applied at the State level, the southern part [illegible] the State has 93,970 acres more than is needed to serve the present population based on the 20 acres/1000 standard. This is providing some service to northern New Jersey for those who are willing to travel the greater distances for the specific activities. However, this acreage does not off-set the deficit of 40,480 acres in the northern counties. This is discussed in detail in the report *Parks and Recreational Land Use in New Jersey.*[5]

NEEDS AND PROPOSALS FOR THE FUTURE

When the population standard for the State is applied to New Jersey's projected population at the 10 and 20 million levels of population open space are needed. At the 20 million population level, this need will be expanded to 400,000 acres, which approximates the need established by the balanced land use standard. This standard implies an even greater deficit at the 10 and 20 million levels of populations (see tables IV and VIII).

Open Space Needs at the Intercounty Level

PRESENT SUPPLY OF OPEN SPACE FACILITIES

The secondary responsibility of the State in the development of a long-range comprehensive system of open space is to provide recreational facilities of intercounty scope in the more densely populated portions of the State. These facilities are more user-oriented than many of the larger resource-based State facilities, and closely reflect the more intensely developed character of county or large municipal facilities. Intercounty facilities serve a population which may encompass more than one county and as a measure of need the standard has been applied to the Class III Regions.[6]

The State owns several areas of open space that function at the intercounty level and there are presently only about 8,500 acres of county-owned land which are performing an intercounty function. These, however, will be included under the discussion of county open space facilities since it would be unfair to class large tracts of county-owned land as performing this function and then cite the county involved as being deficient in open space at the county level.

The standards suggest a need for about 24,000 acres to serve 1960 intercounty needs (see Table V). State responsibility is particularly needed in urban areas to ease the load on county park systems.

NEEDS FOR THE FUTURE

The inter-county open space system in New Jersey would need 40,000 acres by the time the State's population reaches the 10 million level. At the 20 million mark, 80,000 acres will be required to meet recreational needs. These acres will be distributed among the Class III Regions in accordance with their populations. If the balanced land use standard is applied to each Class III Region, the total need is approximately 96,000 acres. Tables IV and VI indicate the regional needs established by the land use standard.

To date no acreage has been proposed for acquisition specifically as an intercounty facility. Undoubtedly, many of the parcels presently being acquired through the Green Acres Program for the State system will actually serve an intercounty function and will eventually be used to offset the deficit in this area of open space need.

Open Space Needs at the County Level

PRESENT SUPPLY OF OPEN SPACE FACILITIES

New Jersey's county open space systems are so diverse that they can hardly be spoken of in a comprehensive way. Union and Essex Counties, on the one hand, have long-established county park systems, but limited potential for expansion. Atlantic and Burlington Counties, on the other hand, possess little or no public open space and have done little planning for acquisition. Somewhere in between these extremes are counties such as Mercer and Passaic which have relatively modest park systems and comprehensive plans and potential for expansion.

In 1960 there were approximately 21,735 acres of open space under county jurisdiction performing a county function. These are listed below.

The 21,735 acres, however, are inadequate to meet present open space needs as defined by the 8 acres/1000 population standard. A total of 27,000 additional acres are necessary to complete the county systems at their present population level. Green Acres has added 4,000 acres to the county level between 1960 and 1967. Deficit and excess figures for the counties are given in Table V.

NEEDS AND PROPOSALS FOR THE FUTURE

Tables IV and VII indicate the amounts of open space acreage which must be added to the supply as New Jersey's population reaches 10 million and 20 million. Using the standard of 8 acres/1000 population, at 10 million the acreage need is 80,000 and at 20 million 160,000 acres will be needed at the county level. When the land use standard of 5 percent of the developable county area is applied, a total of about 190,000 acres is indicated to be set aside in open space. Table VI lists these figures on a county basis.

Table XII

COUNTY OPEN SPACE IN NEW JERSEY, BY COUNTY

County	Existing Acres, 1960	Acres Purchased Via Green Acres Program (as of January 1, 1967)
Atlantic	9	–
Bergen	3,192	940
Burlington	–	–
Camden	2,000	–
Cape May	–	–
Cumberland	–	–
Essex	4,409	1
Gloucester	70	–
Hudson	625	–
Hunterdon	–	–
Mercer	694	93
Middlesex	912	1,041
Monmouth	52	494
Morris	2,376	833
Ocean	332	11
Passaic	1,076	–
Salem	–	–
Somerset	793	467
Sussex	–	–
Union	5,121	120
Warren	4	–
TOTAL	21,735	4,000

[redacted]

Open Space Needs at the Intermunicipal and Municipal Levels

INTERMUNICIPAL FACILITIES

No inventory or classification of intermunicipal facilities will be attempted in this report. Some of the smaller county-owned recreational parcels included above as existing county-level facilities may, in reality, be functioning at the intermunicipal level. That is to say, these parks are serving two or three municipalities within the county but do not service the county as a whole. A description of the functional aspects of the intermunicipal park was detailed in Chapter III. A general guide to the desirable amount of this type of facility is discussed below.

Presently, some 24,300 acres (Table V) of open space are required on a population standard basis in the State as a whole. This acreage should be distributed among the 85 Class IV Regions. Approximately 40,000 acres (Table VII) will be required when the population reaches 10 million and 80,000 acres to service the Class IV Regions at a population of 20 million (Table IV). Based on the land use standard of 2 percent of the developable area of each Class IV Region,[7] a total of 76,000 acres are needed to fulfill the recreational requirements at the intermunicipal level.

MUNICIPAL FACILITIES

As of 1960, some 17,400 acres (Table V) were in existence as municipal open space facilities. These figures are given on a county basis in Table XIII. As indicated in Table V, this acreage is not adequate to meet the current open space need generated at the municipal level. Some 31,100 additional acres should be added to the total to meet current needs. At the 10 million population level, as shown in Table VII, the need will jump to 80,000 acres and at 20 million population, to 160,000 acres (Table IV). The balanced land use standard indicates a need for 144,000 acres of open space to be set aside by the State's 567 municipalities. Green Acres has added 2118 acres to the municipal level between 1960 and 1967.

Table XIII

MUNICIPAL OPEN SPACE IN NEW JERSEY, BY COUNTY

County	Existing Acres, 1960	Acres Purchased Via Green Acres Program (as of January 1, 1967)
Atlantic	429	–
Bergen	2,383	108
Burlington	478	26
Camden	1,345	7
Cape May	231	9
Cumberland	562	–
Essex	1,558	8
Gloucester	577	–
Hudson	598	6
Hunterdon	436	–
Mercer	818	652
Middlesex	1,694	438
Monmouth	1,150	369
Morris	1,747	68
Ocean	382	228
Passaic	759	9
Salem	145	–
Somerset	591	74
Sussex	170	–
Union	1,227	116
Warren	116	–
TOTAL	17,396	2,118

FOOTNOTES

1. Division of State and Regional Planning, *The Setting for Regional Planning in New Jersey,* (Trenton: State of New Jersey, December, 1961), see generally.
2. Jean Gottmann, *Megalopolis,* (Cambridge: The M.I.T. Press, 1961), p. 3.
3. This was done to establish a system based on concepts suggested in this study, and does not necessarily represent the thinking of the several states in which the facilities are located.
4. Division of State and Regional Planning, *op. cit.,* see generally.
5. Division of State and Regional Planning, *Parks and Recreational Land Use in New Jersey,* (Trenton: State of New Jersey, June, 1965), see generally.
6. Division of State and Regional Planning, *op.cit.,* see generally.
7. *Ibid.,* see generally.

CHAPTER V

METHODS OF OBTAINING AND PROTECTING OPEN SPACE

There is an increasing awareness (at all levels of responsibility in New Jersey) of the necessity to preserve open space. The question arises as to what means are available to protect the remaining undeveloped lands of the State which possess an open space potential.

Although many people do not realize it, all levels of government in New Jersey have the authority to insure the preservation of open space. However, this authority is not unlimited. It is delegated by the State legislature to the counties and municipalities by means of State enabling legislation.

Methods of either obtaining or protecting open space that are available to New Jersey governmental jurisdictions can be classified into five general categories: a) Acquisition; b) Use of the police power; c) Tax policy; d) Gifts; and, e) Other methods. Each of these general categories contains specific tools that the various units of government may apply in the preservation of open space.

The "other methods" of preserving open spaces are proposed or have been used in areas outside of New Jersey. These have been included in this discussion in order to provide a broader understanding of the potential that is available in the process of protecting open space.

Acquisition

Ownership of land is generally described as the ownership of a "bundle of rights" in the land. They include "the right to the man to sell his property, to encumber it, to have his wife and children inherit it and to build upon it and to develop it."[1]

Several avenues are open to government in the acquisition of land for open space purposes. If a governmental jurisdiction purchases all of the property rights, it requires the fee simple or complete title to the land. Governments may purchase less than full title (such as development rights) to guarantee that the land will be maintained in open use. This type of transaction is defined as the acquisition of an easement. The original land owner still retains some of the property rights, but he must conform with the stipulations of the easement. The amount and kinds of rights retained depend upon the agreement between the public agency and the land owner.

Acquisition of Title of Ownership

All levels of government in New Jersey may acquire full title to land that will be preserved as open space. At the State level this authority is vested primarily in the Department of Conservation and Economic Development for the types of land with which this report is concerned. Counties and municipalities also have been granted the authority (by State enabling legislation) to acquire full title to open space by either direct purchase or the power of eminent domain. Usually full title is acquired through negotiation between the governmental body and the seller at the prevailing market price. However, in some instances government must use its power of eminent domain to acquire private property when the landowner refuses to sell. Under condemnation proceedings title is transferred to the government and the landowner is paid a just compensation. The power of governments to exercise eminent domain is not unlimited. Government, at any level, may condemn land through eminent domain only when it can be shown that the land will be taken for the public health, safety or welfare. According to one judicial opinion delivered nearly 100 years ago: "Private property is taken for public use when it is appropriated for the common use of the public at large. A stronger instance cannot be given than that of property converted into a public park."[2]

The most notable decision pertaining to public use was handed down by the United States Supreme Court in *Berman v. Parker*. The case broadened the concept of public use to include the condemnation of valuable commercial property within an area designated for redevelopment under the Housing Act of 1949. The court in that case stated that[3] . . .

> The concept of the public welfare is broad and inclusive. The values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully patrolled. In the present case, the Congress and its authorized agencies have made determinations that take into account a wide variety of values. It is not for us to reappraise them. If those who govern the District of Columbia decide that the Nation's Capital should be beautiful as well as sanitary, there is nothing in the Fifth Amendment that stands in the way.

The 1947 New Jersey Constitution authorizes a somewhat unique form of eminent domain commonly (although not necessarily correctly) referred to as "excess condemnation." According to the provisions of the Constitution[4]:

> Any agency or political subdivision of the State or any agency of a political subdivision thereof, which may be impowered to take or otherwise acquire private property for any public highway, parkway, airport, place, improvement, or use, may be authorized by law to take or otherwise acquire a fee simple absolute in, easements upon, or the benefit or restrictions upon, abutting property to preserve and protect the public highway, parkway, airport, place, improvement or use; but such taking shall be with just compensation.

Perhaps the best example of excess condemnation is the Garden State Parkway where much of the abutting land was secured by using this form of eminent domain in order to preserve an open park-like character and provide a pleasant driving experience.

The constitutional and statutory bases for acquiring rights in either land or water by purchase or eminent domain have been outlined to some extent.[5]

Municipalities in New Jersey derive their general power to acquire land for parks from a statute relating to "public parks, squares, open spaces, playgrounds, beaches . . ."[6] Additional statutory authorization to acquire public golf courses[7] and swimming pools[8] is granted omitting, however, the power to condemn. Recreation commissions may be created on the municipal level and are given power to acquire land for "public playgrounds and recreation places."[9] The county park commissions in New Jersey also have the power to acquire parks and open spaces for public resort and recreation.[10] Finally, land may be acquired by the State through the Department of Conservation and Economic Development for a "state park or a forest park reserve."[11] The forest park reserve may be augumented by the acquisition of fresh water lakes or ponds, with adjoining lands;[12] and by woodland swamps or marshland which may be conveyed to the State by municipalities.[13] There is also provision for the acquisition of roadside parks adjacent to State highways.[14] Individual charters, and special statutes applicable to particular county park commissions supplement the over-all program in New Jersey.

Acquisition of Easements

Governmental jurisdictions in New Jersey do not (in every instance) have to acquire the complete bundle of rights that constitute acquisition of fee. Legislation enacted in New Jersey permits the acquisition (by all levels of government) of development rights. By acquiring only certain rights pertaining to the use of land, governmental jurisdictions may still achieve the goal of preserving open space. Some easements restrict development; others permit no development at all while others are less restrictive, and are merely used to permit public access to woodland for hunting and fishing purposes. Some of the principal types of easements that have had widespread use throughout the country are: scenic easements which prohibit development near parks and park entrances; parkways, highways and other right-of-way easements; airport easements; and, water control easements.

CONSERVATION EASEMENTS

The conservation easement involves governmental acquisition of certain development rights of the owner in his land which limits the type and intensity of development of the land. The private owner retains the title and can use his land in any manner which does not conflict with the rights conveyed to the governmental body.[15]

New Jersey's governmental units not only have the statutory authority to negotiate for the purchase of easements, but they also have the authority to utilize condemnation proceedings to procure an easement upon the land.[16] As in the case of utilizing eminent domain for acquisition of fee simple title, it must be shown that the easement is for the benefit of the general public, and just compensation must be awarded to the owner.

The Outdoor Recreation Resources Review Commission (ORRRC) cites four advantages of conservation easements to the public. They include:[17]

a. Conservation of prime land without having to bear fee simple costs,

b. Retention of the land on the tax rolls,

c. No maintenance costs as the landowner maintains the land, and

d. Retention of land that is productive and alive.

There are limitations to this method. The acquisition of a conservation easement involves an immediate and substantial outlay of public funds.[18] Since a large part of the value of open land near urban centers can be attributed to its potential for future development, a government acquiring development rights may have to pay close to the full value of the land. The conservation easement approach also lacks flexibility. It may turn out that the property could be more appropriately used without the restrictions. If the public unit were to sell the development rights, the only market would probably be the person owning the fee.

The primary criticism leveled against purchasing conservation easements is that they cost nearly as much as acquisition of fee simple title in rapidly developing areas. The cost of an easement is generally estimated by "the difference between the fair market value of the land with the easement and without it."[19]

A study prepared by the Division of State and Regional Planning indicates that the acquisition of conservation easements may be feasible in certain instances: "when the cost justified the limited rights to be acquired. Normally conservation easements should not be bought where land is almost worth full urban value. Where land has only agricultural value, the purchase of conservation easements may be justified if future development is expected."[20]

The same study concentrates on the three New Jersey counties of Burlington, Camden and Gloucester. It is estimated that it would be feasible to preserve 66 percent of the remaining open space in these counties through the use of conservation easements. Because of high land costs, it was found that it would not be practical to purchase easements for 21 percent of the remaining open space and unnecessary for 11 percent of the remaining vacant land because it is of no development value.[21] There has been some discussion concerning the purchase of easements on parcels of land adjacent to those that are being secured through acquisition of fee. There are no examples at this time, however, that can be cited to show the advantages or disadvantages of conservation easements in New Jersey.

Use of the Police Power

The State has delegated certain of its police powers to the local municipalities in order that they may protect the health, safety, and welfare of their citizens. Two of these powers available to the municipalities in New Jersey are zoning and subdivision regulations.

Zoning

The use of comprehensive zoning has long been acknowledged by the courts to be a valid exercise of the police power.[22] In contested cases, the court must decide whether the municipality's ordinance is reasonable when applied to the individual property owner who (without a zoning variance) can develop his land only in conformance with the ordinance. Through zoning, the municipality has an instrument that restricts the use of private property, therefore, it must be used judiciously. Its purpose is not necessarily to assure that the use of land produces a benefit to the public, but rather to assure that it is not being used in a manner that is injurious to the public. Zoning cannot be used for the sole purpose of producing a public benefit. The landowner must be compensated for land or property rights taken for a public purpose.

CLUSTER ZONING

A relatively recent and successful technique that has been used in New Jersey for preserving open space is cluster zoning. Although the concept of cluster development is not new (Radburn, New Jersey was the "granddaddy" of the concept) the use of cluster zoning on a wide scale in New Jersey is new. Of all the types of zoning currently engaged in by municipalities, perhaps cluster zoning has the most potential as a means of preserving open space.

Cluster zoning provides a maximum density for each zoning district. The housing units on a parcel being subdivided are "clustered" together within the zone,thus occupying a minimum amount of the land. The remaining land is devoted primarily to open space for the "common" use and enjoyment of the residents.

The advantages of this form of zoning are many, as shown by the example in Hillsborough Township, in Somerset County. Although since rescinded in 1961, the Township approved a cluster zoning ordinance and subsequently a cluster project of 72 homes was erected. The developer had initially planned to construct 69 homes using a conventional subdivision design.[23] However, by using the cluster concept, he was able to build three more homes and place them in more desirable locations. Unlike his original plan, there would be no homes abutting on a railroad track, a highway, an industrial zone, or on less expensive homes in the neighboring municipality. Moreover, all of his homes were adjacent to the common open space; and, terrain features such as trees were permitted to remain.

The developer was able to trim land development costs by $1,000 per lot. Fewer streets were required. Water and sewage services were reduced in cost because of the tighter grouping of homes. Even labor costs were reduced because it was possible to concentrate materials and equipment.

Many of the above advantages are economic. However, the advantages to the home-owners and the municipality as a whole are even more important. The amenities provided the public through the preservation of open space, retention of desirable terrain features, and the relative isolation of homes from other forms of development have proved popular. The result has been a living environment that many people consider superior to that found in the conventional subdivision. The validity of cluster zoning was challenged in New Jersey in the Township of South Brunswick (*Chrinko v. South Brunswick Township Planning Board,* 77 N.J. Super 594, 187 A.2d 221 [1963]). The Township (once predominantly an agricultural area) was faced with a population upsurge. It reacted by amending its zoning ordinance in 1962 adding a cluster provision. The expressed purpose of the provision was to provide a method of development which would "preserve desirable open spaces, school sites, recreation and park areas and lands for other public purposes."[24]

Under this provision, a subdivider who dedicated part of his land to the township and received planning board approval, could reduce lot area and frontage below the minimum ordinarily required. Before the planning board could authorize these reductions several requirements had to be met including the following:[25]

(1) the resulting density of the tract being subdivided must be no greater than otherwise permitted.

(2) the land deeded for public use must be "located, shaped and improved as required by the Planning Board, which shall consider the suitability, physical condition and location of the lands with regard to its proposed uses and to the needs of the Township, in reaching its determination . . ."

(3) a portion of the land dedicated must be "at least a usable single five acre tract."

The trial court upheld the provision as a valid use of the police power of the municipality stating that "the need for preserving woods and parklands in a natural state, as well as lands adequate for other public purposes, is widely recognized. The voters of this State approved by referendum in 1961 the expenditure of $60,000,000 for the acquisition of so-called 'green acres' by the State or political subdivisions. Athough the state zoning law does not in so many words empower municipalities to provide an option to developers for cluster or density zoning such an ordinance reasonably advances the legislative purposes of securing open spaces, preventing overcrowding and undue concentration of population, and promoting the general welfare. Nor is it an objection that uniformity of regulation is required within a zoning district . . . Such a legislative technique accomplishes uniformity because the option is open to all developers within a zoning district, and escapes the vice that it is compulsory. Cluster or density zoning is an attempted solution, dependent as set up in the South Brunswick zoning ordinance, upon the agreement of the large-scale developer whose specific monetary benefit may be only that he saves on street installation costs."[26]

A leading authority, however, is not convinced that the approach taken in New Jersey of requiring the developer to dedicate the common open space to the municipality, is the correct one.[27] He finds it unfair that "common" open space should be owned by the municipality and not by the home owners, who in purchasing their home also had to pay for the initial land and development costs of the subdivider.

Cluster zoning, however, appears to have considerable potential for preserving open space. If used properly, the concept seems to assure that all will benefit. The builder saves money in construction, and more important, the home owner and the general public enjoy additional open space.

ZONING TO PRESERVE OPEN SPACE

Open space zoning (or exclusive zoning) involves considerable regulation of land use. Open land is designated (by ordinance) as being available for only such low density uses as recreation or agriculture.

Areas zoned exclusively for agriculture have had limited use to date, although it has been reported that "isolated municipalities in the New Jersey-New York-Connecticut Metropolitan Region have attempted such an exclusive zone, from which residential development unrelated to the needs of the farming community is excluded."[28] Agricultural zoning is used by some New Jersey municipalities, but it usually does not restrict the land uses exclusively to agriculture and is (in effect) large lot residential zoning which permits agricultural uses.

On the basis of recent court action in New Jersey, it appears that exclusive agricultural zoning might be upheld if "some factual proof of the importance of farming to the community" were presented.[29]

It would seem that rural municipalities heavily dependent upon an agricultural economy could employ exclusive agricultural zoning. More important, however, would be the acceptance by the court of evidence indicating the need for the retention of open space through exclusive agricultural zones in an urbanized state.

Zoning ordinances which restrict property to recreational uses have not (as yet) survived judicial review in New Jersey.

The Supreme Court of this State has held one zoning amendment unconstitutional when it was adopted to maintain swampland in its natural state (*Morris County Land Improvement Co. v. Township of Parsippany—Troy Hills*, 40 N.J. 537, 193 A.2d. 232 [1963]). The regulations were found excessive, constituting an indirect taking of private property for public use without compensation.

The court in that case pointed out that "while the issue of regulation as against taking is always a matter of degree there can be no question that the line has been crossed where the purpose and practical effect of the regulation is to appropriate private property for a flood water detention basin or open space. These are laudable public purposes and we do not doubt the high-mindedness of their motivation, but such factors can not cure basic unconstitutionality. Nor is the situation saved because the owner of most of the land in the zone, justifiably desirous of preserving an appropriate area in its natural state as a wetland wildlife sanctuary, supports the regulations. Both public uses are necessarily so all-encompassing as to nearly prevent the exercise by a private owner of any worthwhile rights or benefits in the land. Therefore, public acquisition rather than regulation is required. When an ordinance so restricts the use of land that it cannot be practically utilized for any reasonable purpose, the restriction is invalid."[30]

"Of course, property need not be zoned to permit every use to which it is adapted, nor must all property similarly situated be accorded identical treatment. To so require would frustrate the zoning objective of a well-balanced community according to a comprehensive plan. It is sufficient if the regulations permit some reasonable use of the property in the light of the statutory purposes."[31]

Open space zoning can be harsh in some instances, when the community assesses the property within the zone as if development were still possible. The assessor determines the market value of the property as if the property were unrestricted, despite the fact that in so doing the community's tax policy ignores the community's land use policy. Under these conditions, the property owner can justifiably complain of unfair treatment.

The assessment issue is actually a symptom of a more pressing problem. As population and economic pressures begin to be felt by the community, land originally zoned for open space purposes is rezoned to permit other uses. This situation has led one observer to state that "Rural zoning today is just a device to stabilize and freeze the present use of land until it is suitable for more intensive use. It protects the farmer while he wants to continue farming, but otherwise does little to keep out the urban developer. Zoning is usually initiated by farmers' efforts, and it is probable that they can easily have it changed. The possibility of a zoning change is the most serious handicap to the functioning and effectiveness of rural zoning as a conservation and stabilization tool."[32]

It would appear that the success of zoning to protect open space over long periods of time will depend to a great extent on the will of the municipality to withstand the temptation of gaining rateables through development of undeveloped land and to withstand special interest groups that would profit from its development.

FLOOD PLAIN ZONING

Many of New Jersey's rivers and streams are still lined with undeveloped lands. These same waters in the past have overflowed their banks during periods of intense precipitation. Where development had occurred on the flood plains of the State's surface waters, a history of damage from flooding exists.

A warning of the consequences of flood plain development has been sounded by the Division of Water Policy and Supply of the Department of Conservation and Economic Development. It has found that "the essential feature of the flood damage problem is the same everywhere: the continued encroachment on river flood plains. It is true that builders of many of the new shopping centers, industrial plants, and residential developments which are being constructed on flood plains have recognized the danger and have taken precautions to escape frequent flooding. Others have not. All, however, will someday suffer flood damage. Flood damage is the inevitable consequence of flood plain occupance."[33]

The damage to development directly on the flood plain is not the only harm that can befall the public. Development on flood plains may have at least two other injurious results.[34] By filling in the flood plains for development, important flood plain storage of water is impaired. Urbanization also has the effect of increasing surface runoff. It has been reported that loss of flood plain storage and increased runoff, especially on smaller streams, may double or triple the peak discharge on downstream reaches. More frequent and intense flood damage has resulted from this situation.

Since development of flood plains could be construed to be harmful to the general public, it appears that New Jersey municipalities (in many instances) could institute flood plain zoning. Development could be restricted on what are now undeveloped lands, thereby preserving open space as a by-product. It would be necessary for the municipality to delineate the extent of the flood plains. This would require technical studies that should be conducted by qualified engineers. Whether flood plain zoning becomes a useful tool for the preservation of open space is dependent upon the will of local governments to withstand the pressures to develop the flood plains for other purposes.

LARGE LOT ZONING

Large lot or acreage zoning generally requires that a lot must be of a certain minimum size before it can be developed for residential use. It has been used in many New Jersey municipalities and is frequently described as an effective means of preserving open space. Such control might provide the chance to determine where future open areas shall be.

The view has been advanced, based on a field study done by an M.I.T. team for the Urban Land Institute, that nothing less than 5—to 10—acre lot zoning (as a minimum) has real significance as a technique to achieve open space:[35]

> If what is needed is extensive and permanently preserved open space to serve as breaks in the city space, to give identity and individuality to peripheral communities, and also to set aside areas of natural scenic beauty for the enjoyment and use of metropolitan populations, large lot zoning will of itself not satisfy these objectives. It would take lot sizes of perhaps five to ten acres to effectively accomplish this.

Assuming that large lot zoning (if the minimum is high enough) may have some value in preserving open space, its advocates point to another by-product that has the effect of preserving open space. It may also serve to control the timing and location of development. By keeping land relatively free from development in the years ahead, public acquisition at a future date will be less costly as will redevelopment. By discouraging mass residential builders (the argument goes) development will be channeled in other directions. If the governmental jurisdiction should wish to acquire this land in the future, and it is intensively developed, the cost might be prohibitive.

Large lot zoning has been criticized on many counts. Forcing developers to use larger lots tends to increase "scatteration," and produces disproportionately high service costs. The developments may have less units but this is no insurance against urban sprawl. One authority warns citizens of outer suburbia that "in their eagerness to keep away mass builders," they "fail to recognize that it is often a multitude of small developments that is their problem, and the fact that the lots must be large by no means inhibits many subdividers."[36]

Another authority believes that "it is doubtful whether it (large lot zoning) deters development or preserves open space for any purpose other than private recreation at home. In the communities where it is in effect, development has not been deterred to any considerable extent."[37]

One of the primary criticisms of large lot zoning is a social one. Many contend that large-lot zoning is frequently used as a device to discourage "outsiders" from residing in the community.

It is obvious that large lot zoning must be used selectively and discriminatingly lest it become an abuse in itself rather than a virtue. Planners must be careful not to promote suburban sprawl and scatteration with the wholesale use of this device.

Subdivision Controls

Subdivision ordinances have been used in many states to preserve open space. They require that the developer set aside or dedicate some of the land for a specific purpose such as a park. Often in the past, developers have done this voluntarily. More recently, however:[38]

> the public interest in reserving land in a subdivision for public recreation is so great that communities rightly do not wish to wait upon the bounty of the developer, but instead, the practice has grown to require the contribution of land for this purpose . . . Analytically, it is a condition exacted in return for the permit or privilege to build; usually it is referred to as an exercise of the police power, that all-embracing power of government to regulate the activities of its citizens and the use of land for the general welfare.

Since the requirement that land be set aside for open space purposes is an exercise of the police power, it must be used judiciously and only when it can be shown that such action is in the interest of the general public. The standards imposed by the ordinance must be uniform and uniformly applied.

What constitutes a reasonable standard of the amount of park land to be set aside in the conventional subdivision has yet to be established. However, municipalities across the country are experimenting with amounts ranging from three to twelve percent of gross acreage.

Establishment of the authority of New Jersey municipalities to require dedication of land by the developer under the present subdivision ordinance does not seem likely in the immediate future.[39] Specific enabling legislation will probably be required before dedication will become a reality.

The Official Map

The official map is another technique that may be useful in preserving open space. In the past, the official map has been used most frequently in connection with preserving rights-of-way for streets or for their widening. This technique is now also being used as a method of obtaining open space objectives. Land can be maintained free of development for future use as streets and it can also be set aside for parks and drainage rights-of-way if they are needed for the public.

The New Jersey Legislature has passed legislation permitting New Jersey municipalities to use the official map as an aid in reserving parks. The Laws states that:[40]

> If portions of the master plan contain proposals for drainage rights-of-way, schools, parks, or playgrounds within the proposed subdivision or in its vicinity, or if standards for the allocation of portions of subdivisions for drainage rights of way, school sites, park and playground purposes have been adopted, before approving subdivisions the planning board may further require that such drainage rights-of-way, school sites, parks or playgrounds be shown in locations and of sizes suitable to their intended uses. The governing body or the planning board shall be permitted to reserve the location and extent of school sites, public parks and playgrounds shown on the master plan or any part thereof for a period of one year after the approval of the final plat or within such further time as agreed to by the applying party.

Municipalities may reserve parkland providing: (a) the mapping of parks is based on a master plan; and (b) the reservation of land for park purposes does not exceed one year after approval of the subdivision plat by the planning board.

It is clear that New Jersey municipalities cannot reserve land for parks indefinitely. Should the municipality decide that it wants to retain the land in open space for a long period of time an alternative means of retention such as acquisition would be necessary.

The present New Jersey law regarding the official map serves as a safeguard for the municipalities. Upon presentation of plans for development, the municipality does not have to make an immediate "now-or-never" decision as to whether or not it will preserve open space in conformance with its master plan. The municipality may take up to one year to make its decision and prepare to take appropriate action if it so desires.

Tax Policy

One of the tools available to the State and the municipality for the preservation of open space is tax policy. From a short range point of view it will not be an easy decision for the municipality to implement open space programs since it would have to choose between having future parks and other open spaces and potential rateables which are so important to municipal government under the present tax structure in New Jersey. In the long run, restraint in the collection of property tax may, in fact, enhance and improve values for the community and thereby result in greater taxable value.[41]

Recognition of Zoning in Assessment Policy

If the public (in its need for open space and its need to control sprawl) seriously restricts the right to convert the land to a higher use, it seems only fair that the public should pay by way of a tax preference for that which it has gained.

New Jersey municipalities are heavily dependent upon the property tax as a source of revenue. In an era of rising expenditures the burden on property owners in the State has been continually increasing. Especially hard hit have been owners of undeveloped land since assessment is not based on the present use of land but rather on a potential use such as residential development. As rural areas are subjected to increasing development, the market value of land rises. This is accompanied by rising assessments which are further necessitated by additional municipal and school services. The situation has led to extremely high property taxes on open land in developing areas near urban centers.

A general directive could be added to present statutory language that would order assessors to presume that the application of land use controls to a parcel of property is permanent in the absence of clear proof to the contrary. Such a general directive would have to apply to all land and would tend to avoid many circumstances where property taxation works at cross purposes with a land use control.

No firm general directives of this type have been enacted in statute form.[42] An assessor could interpret present standards such as market value to mean market value considering only uses to which property can be put, and could, thereby, give effect to controls limiting the use. However, such interpretation is unlikely due to the importance of property tax revenue to the municipality.

DEFERRAL

Deferral of taxes involves postponing the payment of taxes on that portion of the market value of the land in excess of the value at the restricted or present zoned use. The postponed or deferred taxes become due on a change in use when the land is put to a use not permitted by the regulation or when the regulation is removed. Deferral is a seemingly attractive proposal because it eventually recovers the deferred taxes. The difficulty with deferral is the severe prospect which the land owner faces when the municipality decides to change the regulations and the owner becomes liable for the deferred taxes.

PREFERENTIAL ASSESSMENT

Preferential assessment involves assessing open land at its value for only the present or permitted unintensive uses. Preferential assessment differs from the general directive in that it applies to only selected land uses, and there is no necessary assumption that the land is permanently subjected to land use controls.

New Jersey voters in the general election of 1963 adopted this method by amending the State Constitution with the addition of the Farmland Assessment Amendment.

The amendment is a form of preferential assessment since its basic purpose is to give preference to farmers, thereby retaining as much of the remaining farmland as possible through a more favorable tax policy.

The Amendment provides:[43]

(a) That farmland in active farm use may be assessed at farm-use value if the farmer wishes,

(b) That in order to qualify, a minimum of five acres must have been actively farmed for two years prior to the tax year, and

(c) That should the farm be sold for a non-farm use taxes based on the higher value will be paid for the previous two years of farm use.

Although the effect of the amendment should be to maintain open spaces, positive assurance that this will occur is lacking. Farmland can and will undoubtedly be sold for development purposes. Realistically, preferential assessment is a valuable supplementary technique when used in combination with other methods of preserving open space, but it cannot be considered a primary means of preserving the permanency of open space.

TAX EXEMPTION

Another tax device that can be used in New Jersey is that of granting tax exemptions to certain forms of open space. All public properties in public use are exempt,[44] and (under certain conditions) privately owned lakes and ponds that are open to the public for swimming and boating are also tax exempt.

The New Jersey law states:[45]

> Any owner of a fresh water lake or pond which is subject to acquisition by the state . . ., may propose an agreement with the board, by which he shall retain title to the property, but grant to the citizens of this state access to and the free use of the waters of such lake or pond for boating and fishing subject to a reasonable charge to be made for the use of boats belonging to the owner of such lake or pond. If, after making an investigation, the board shall be satisfied that the public interest will be as well served by the freedom to use the lake or pond for boating or fishing, as it would be if the property were conveyed to the state, the board shall enter into an agreement with the owner of such lake or pond, which agreement shall provide that, in consideration of the free use by the public of the waters of such lake or pond for boating and fishing, the property shall be exempt from taxation so long as the agreement remains in force, the same as it would if the state acquired title thereto.

This statute has not been used in recent years. However, in some individual cases it could conceivably work to the advantage of both the State and the land owner. A land owner who desired to keep his land in open space could do so without having to pay taxes on it while the State would gain its objective of maintaining additional open space without acquiring the land.

Gifts

Historically, one of the primary methods of obtaining open space in New Jersey has been through gifts of land to various governmental jurisdictions.

This has been a frequent practice in New Jersey at all levels of government. Over one-third of the existing State Park acreage has been donated to the State through gifts. This includes over 11,000 acres at the State's largest park, High Point State Park. Examples of other existing state parks whose acreage was acquired through gifts include Ringwood Manor, Hacklebarney, and Stevens State Parks. The Abram S. Hewitt and Norvin Green State Forests are examples of State owned lands that were given to the State by generous benefactors interested in the welfare of the State.

Many municipal parks have been the gifts of individuals. Perhaps the best example is the 1,100 acre park in Bridgeton.

Gifts of undeveloped land to the various levels of government have been frequent. Some observers suggest that this practice could be even further accelerated if certain incentives were provided. One might be tax concessions to individuals who chose to leave undeveloped lands to governments for open space purposes. There appears to be many approaches that could be attempted in this direction.[45]

Acquisition of open space through gifts has been a primary means of preserving undeveloped lands. However, it is probable that aquisition by gift will decline continually as the competing demands for undeveloped land in New Jersey intensify. This will serve to increase the necessity to acquire open space by positive governmental action.

Other Methods

The above methods do not by any means exhaust the list of potential means of acquiring open space. They merely represent the principal methods now available to governmental jurisdictions in the State. There are several new proposals.

One proposal (pertaining to a tax referral technique) would give the owner of land restricted for open space and registered as such with the tax assessor, a rebate in his property taxes at a rate of 90 percent for the first three years, 70 percent for seven years, and 50 percent thereafter. This would be curtailed if the land were freed for development, and all rebated taxes would become due.[47]

The theory of *compensable regulations*[48] was first advanced at the 1961 Penjerdel Open Space Conference. This concept would require that municipalities reimburse owners of land where regulations specify that the open charcter of the land be preserved. Such compensable regulations are intended to bridge the present gap between the power of governments to regulate without compensation and the power to acquire land.

The compensable regulation alternative does not involve governmental acquisition of property interests. Rather, land is zoned or otherwise regulated for open space uses, but with a governmental guarantee of its value:[49]

> Land subject to compensable regulations would be valued for purposes of owner's guarantee at its value immediately prior to and unaffected by the adoption of the regulations. Property owners would be entitled to draw upon the owner's guarantee for compensation, payable at the time of the sale of the property, equal to the amount, if any, by which the sale price of the property fell below the owner's guarantee. The amount of the owner's guarantee for each property would be reduced by each payment and would remain attached to the property as a guarantee for later purchasers.
>
> The advantages of compensable regulations are several: They could keep land open, in private ownership, at low cost to local governments, with payment of compensation deferred until owners choose to sell. If the market price of the land subject to compensable regulations rises above the owner's guarantee, as it very well might, there is no cost to the government. Also, there can be no overstatement of any decline in value, because this is determined in each case by actual sale of the property.

The appeal of the compensable regulation alternative exists (in part) as a reaction against the harshness of exclusive open space zoning.

Two of the newer proposed methods of acquiring open space include *purchase and resale* of land with attached restrictions; and, *suburban development districts.*[50]

Purchase of land by Federal, state, or local governments *followed by a lease* to private persons for open space uses, in accordance with governmental plans can assure realization of some open space objectives. A possible disadvantage to purchase and lease-back is that the government becomes a permanent landlord with management responsibilities, a type of business government tries to avoid.

Resale in accordance with a development plan, similar to the temporary government ownership in redevelopment areas, can assure permanent open space and overcome the objection of having the government as a permanent landlord.

Charles Abrams of the M. I. T.—Harvard Joint Center for Urban Studies and Dr. Marion Clawson of Resources for the Future Inc., have each proposed a variant to purchase and resale. Mr. Abrams proposes that the state and federal governments buy larger tracts of land in advance of development, plan subdivisions with inclusion of adequate open space, then sell the land to developers for building in accord with these plans. This is an adaptation of the concept of urban redevelopment to undeveloped suburban land.

Dr. Clawson recommends the creation of new units of government to be called suburban development districts to plan and develop suburban land within the districts. When development is complete, the district would disband. Open space could be maintained by the local government or an owners' association. Dr. Clawson suggests that counties or states could preserve open space outside the districts by permitting development only within the districts. Both of these proposals would require public support for the concept of more complete government control of land development than is now common in the United States.

These proposals, like any others, must be compatible with constitutional standards. If they (as proposed) limit development to the government owned districts, some form of compensation would probably be necessary for those property owners whose land was excluded from the districts. Otherwise, they could claim that forbidding them to sell for development would be a taking of their land without just compensation in violation of constitutional guarantees.

An auxiliary to the exercise of more direct powers of government is the *power to deal.* This power is often used, but is not recognized as the power of the state to make a "deal" in connection with the carrying out of its regulatory, taxing, grant-in-aid, and proprietary powers particularly.

To illustrate this power, the state grants a lease, a use permit or a concession for a state-owned land area to a private person, and as a part of the deal, he agrees to use or not to use his own land in specified ways or for specified purposes.

Current subdivision administration offers daily evidence of dealing which may be of importance to an open space or resource program. Mrs. Strong calls our attention to such "deals" in her discussion of required dedication of land or grants of money as conditions to approval of subdivision on plats.[51]

Much confusion exists about the exercise of the power to deal. Vague generalizations have sometimes been substituted for thoughtful analysis. "A governmental unit cannot contract away its police power;" "a legislature cannot bind future legislatures;" and "contract zoning is unconstitutional" — these are typical statements made with respect to the power to deal. The problem to which relatively little analysis has been directed is how can its exercise be controlled so as to prevent gross hand-outs to some and arbitrary refusals to deal fairly with others.

There are many methods to be considered for what might be called a "Total Strategy"— truly a Comprehensive Plan. There is no one answer and no one agency which will suffice. A great number of existing or proposed powers and tools will have to be employed. What is needed is the much vaunted "American genius for organization," i.e., the ability to work together, to coordinate the policies and programs of many interests and governments for the guidance of the growth of urban areas — for the preservation and provision of open space is of paramount importance.

FOOTNOTES

1. William H. Whyte Jr., *Securing Open Space for Urban America: Conservation Easements*, Technical Bulletin 36, (Washington: Urban Land Institute, 1959), p.11.
2. *County Court of St. Louis County v. Griswold*, 58 Mo. 175, 96 (1874).
3. *Berman v. Parker*, 348 N. S. 26, 75 S. Ct. 98 (1954).
4. *State of New Jersey Constitution*, Art. IV., sec. 6, para. 3, 1947.
5. Shirley Adelson Siegel, *The Law of Open Space*, (New York: Regional Plan Association, 1960), pp. 3ff.
6. *N.J.S.A.*, 40:61-1.
7. *N.J.S.A.*, 40:61-22.6.
8. *N.J.S.A.*, 40:61-22.21, 22.22
9. *N.J.S.A.*, 40:12-14, and 40:61-19.
10. *N.J.S.A.*, 40:37-33, 81, 95, 204 et. seq. These are supplemented by special statutes.
11. *N.J.S.A.*, 13:1-18.
12. *N.J.S.A.*, 13:8-22.
13. *N.J.S.A.*, 54:5-117.
14. *N.J.S.A.*, 13:2-6.
15. *Whyte, op. cit.*, p. 44.
16. For open space easement condemnation at the County level see *N.J.S.A.* 40: 37-33 and 40: 37-101; at the Municipal level see *N.J.S.A.* 40: 61-1.
17. William H. Whyte, Jr., *Open Space Action*, Outdoor Recreation Resources Review Commission, Report 15, (Washington: U.S. Government Printing Office, 1962). p. 18.
18. *Ibid., p.* 88, in which it is stated that a Wisconsin scenic easement program cost an average of $20.66 per acre.
19. *Ibid.*, p. 17.
20. Division of State and Regional Planning, *The Feasibility of Buying Conservation Easements on Open Land*, (Trenton: State of New Jersey, 1963), p. 34.
21. *Ibid.*, p. 33.
22. *Village of Euclid v. Ambler Realty Co.*, 272 U.S. 183 (1926).
23. William H. Whyte Jr., *Cluster Development*, (New York: American Conservation Association, 1964), pp. 16-18.
24. *Zoning Digest*, Vol. XV, No. 3, (Chicago: American Society of Planning Officials, March, 1963), p. 63.
25. *Ibid.*, pp. 63-64.
26. *Ibid.*, p. 64.
27. William H. Whyte Jr., *Cluster Development*, (New York: American Conservation Association, 1964), p. 35.
28. Siegel, *op. cit.*, p. 38.
29. *Ibid.*, p. 38.
30. *Zoning Digest*, Vol. XV, No. 10, (Chicago: American Society of Planning Officals, November, 1963), p. 301.
31. *Ibid.*, p. 301.
32. Division of State and Regional Planning, *op. cit.*, p. 4.
33. Division of Water Policy and Supply, *Flood Damage Alleviation in New Jersey*, Water Resources Circular #3, (Trenton: State of New Jersey, 1962), p. 1.

34. *Ibid.*, p. 1.
35. Siegel, *op. cit.*, p. 40.
36. William H. Whyte Jr., *Securing Open Space for Urban America : Conservation Easements*, Technical Bulletin 36, (Washington: Urban Land Institute, 1959), p. 22.
37. Ann Louise Strong, *Open Space in the Penjerdel Region: Now or Never*, (Philadelphia: Penjerdel, 1963), p. 39.
38. Siegel, *op. cit.*, p. 16.
39. See the case of *Midtown Properties, Inc. v. Madison Township*, 78 N. J. Super. 471, 189 A. 2d. 226 (1961), where an attempt to compel the developer to donate land for a school under the subdivision ordinance was held invalid.
40. *N.J.S.A.* 40:55-1.20.
41. Siegel, *op. cit.*, p. 43.
42. See *N.J.S.A.* 54:4-1 and 54:4-23.
43. *State of New Jersey Constitution*, Art. VIII, Sec. III.
44. *N.J.S.A.* 54:4-3.3.
45. *N.J.S.A.* 13:8-23.
46. Siegel, *op. cit.*, p. 49.
47. *Ibid.*, p. 43.
48. Jan Krasnowiecki and C. N. Paul, "The Preservation of Open Space in Metropolitan Areas," 110 *University of Pennsylvania Law Review* 179 (1961). Jan Krasnowiecki and Ann Louise Strong, "Compensable Regulations: A Means for Controlling Urban Growth Through the Retention of Open Space," *Journal of the American Institute of Planners*, Vol. 29, no. 2, (May, 1963), see generally.
49. Strong, *op. cit.*, p. 41.
50. *Ibid.*, p. 44.
51. *Ibid.*, p. 40.

CHAPTER VI

LONG RANGE APPLICATION OF PRINCIPLES

This chapter will attempt to synthesize the material of the preceding chapters and develop a discussion of how open space needs can be met by different levels of government and in different areas of the State in an orderly long-range open space system. The advantage of such an orderly system is to provide the public with a complete range of facilities of suitable quality and at the proper locations, while at the same time maximizing both natural and fiscal resources. In a state so highly urbanized as New Jersey, another important benefit of an orderly open space system is the wise use of a limited amount of land. The following discussion will be concerned with how such a system might look depending upon various alternatives of future land use.

As part of the Horizon Planning Concept, (discussed in the opening sections of this report), some Development Alternatives have been identified and delineated for testing and analysis. The purpose of this phase of the Statewide Planning Program is to establish a series of long-range goals and objectives for the future growth of the State. These Horizon Alternatives can be grouped under the following headings:

DISPERSAL

Unplanned Spread
Planned Spread
Multi-Corridor
Leisure State

MULTI-CENTERS

New Towns
Garden Cities
New Towns along Multi-Corridors

CONCENTRATION

Corridor City
Intensive Concentration
New Urban Centers
New Centers along Corridors

The analysis of Development Alternatives will test the feasibility and/or desirability of these basic patterns of land use which have been isolated for study purposes. It isn't likely that any single Development Alternative will constitute the "Horizon Plan;" rather, various elements selected from these Development Alternatives will form the basis for the long-range goals and objectives toward which New Jersey will endeavor to guide its future growth and development.

One of the principal criteria employed in defining New Jersey's planning "Horizon" was the basic objective of retaining a minimum of 20 percent of the State in public open space as defined in this present study. It appears that this amount of public open space will minimally satisfy the needs of twenty million persons while preserving vital natural resources.

Three basic Open Space Policy Concepts can be identified and related to the several Development Alternatives of the Statewide Comprehensive Planning Program. Alternatives within the three basic Open Space Concepts are set forth in the hope of providing a more comprehensive basis for the selection of an over-all open space policy plan to serve as an input to the final Long-Range State Development Plan. The following discussion of the Open Space Concepts represents the total implementation of each specific open space policy. The final Plan could, however, be a desirable combination of these policies.

Open space in the following discussion refers to the publicly dedicated land held open for conservation and/or recreational purposes as defined in Chapter I of this report. It should be noted that there are many other land uses of an open nature that, where appropriate, should be considered for inclusion as a part of the open space system but not included in meeting the acreage resulting from application of the standards. A land use which is common today may be a scarce and/or unique natural resource in the future and, therefore, should be protected for the 20 million level of population.

The three groups of Open Space Concepts are:

EXPEDIENCY (UNPLANNED) CONCEPT

NATURAL FEATURES CONCEPT

Elements:

STREAM VALLEY PRESERVATION
SLOPE PRESERVATION
HIGHER ELEVATIONS PRESERVATION
WOODLAND AND FOREST PRESERVATION
AGRICULTURAL LAND PRESERVATION
COASTLINE AND SALT MARSH PRESERVATION

DESIGN CONCEPT

Alternatives:

CONCENTRIC RINGS
WEDGES AND CHANNELS
CONTAINERS
RECREATIONAL CORES

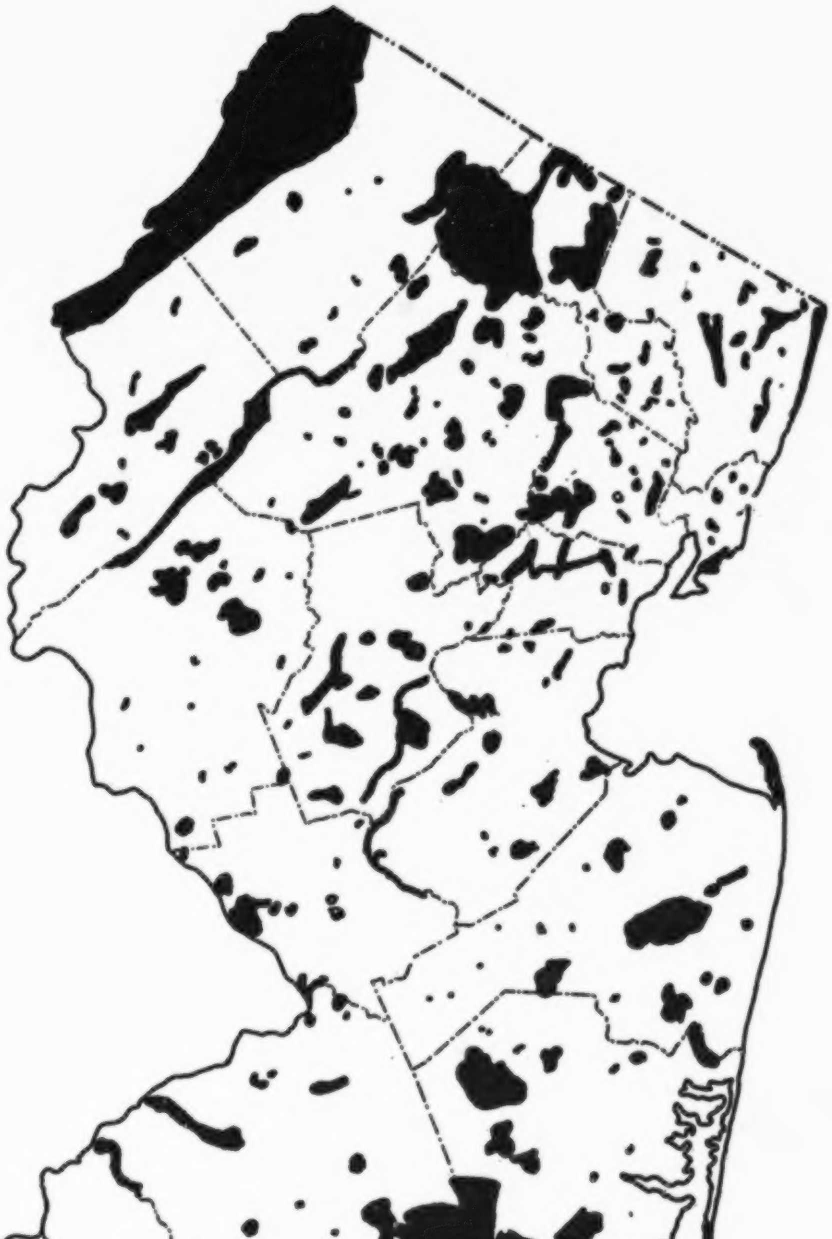
Expediency (Unplanned) Concept

This Concept reflects in some measure what has gone on in the past. Land has become public open space because it happened to be available, or someone made a gift to a governmental unit. On other occasions, careful but limited planning was done for a localized area and suitable pieces of land were acquired for public open space. Many of the areas now existing were acquired according to the principles to be discussed relating to the Natural Features Concept and the Design Concept, and many are key areas in any future open space system. In a few instances, public agencies are at a complete loss as to what to do with specific areas. The missing element has been the long range look at the total needs for an extensive geographical area.

This Open Space Concept then, assumes that the existing situation will prevail, with each governmental unit assessing and planning for its own open space needs independent of what the long-range plans may be at the other governmental levels or even in surrounding units. Chances are a continuation of this policy is likely to result in inadequate facilities and greater deficits than exist today because of increased urban pressures on the land, duplication of some facilities by different levels of government, and the complete omission of other needed facilities.

Figure 7

EXPEDIENCY (UNPLANNED) CONCEPT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SOURCE: *Division of State & Regional Planning*
1967

Natural Features Concept

This concept is really more in the realm of a philosophy for preserving open space and natural areas than an open space system based upon any specific patterns of development. The thesis is that lands for open space should be largely made up of areas which have a distinct natural character, the preservation of which would not only satisfy open space requirements, but would also serve the public interest in other capacities.

Steep slopes and various other severe characteristics of land limit the rate and direction of urban growth until the demand for utilization becomes great enough to overcome the high costs of development. This high demand has occurred in the urban areas but not in the outlying sectors of the State where such natural open areas continue to exist. The urban areas should protect their natural features though they might be relatively small. In New Jersey it is likely that the Natural Features Concept would result in the creation of an open space system centered on the more outlying sectors of the State. Further, the open space system would be located on relatively "undevelopable land" — land that would have limited value for more intensive forms of development — using today's concept of the economics of development.

STREAM VALLEY PRESERVATION—This element emphasizes the protection of stream courses, flood plains and wetlands (fresh water). Water resources problems are becoming more critical as the population density of the State increases. Under the resources development principle of multi-purpose use, public water resources can be developed for various types of desirable recreation without endangering water quality. Adjacent land can be incorporated into a recreation system and enlarged at various locations. A combination of public ownership and regulation can protect a drainage area and control total environment.

SLOPE PRESERVATION—Areas of excessive slope should be defined and delineated. There are many characteristics of sloping land that make development difficult in the building of roads, placing of utilities, construction of building foundations, and many others. In another respect, slopes often can be seen for miles standing above the level of the valleys. This is part of the State's scenic heritage and should be protected.

HIGHER ELEVATIONS PRESERVATION—All areas above a given elevation could form an open space pattern. These high lands in New Jersey are less able to supply the abundant ground water resources of the coastal plains and have, therefore, been slow to develop. Much of the higher lands are wooded with limited access. The high green vistas of the State should be protected for their visual beauty.

WOODLAND AND FOREST PRESERVATION—There are extensive areas of forest cover in New Jersey from farm wood lots to mountain tracts. While this area incorporates a great deal of the areas previously described, a recognition of the value of forests as such and management policies to preserve their wooded character would insure vast open space preservation. The State provides fire protection to much of the forests at this time. Cooperative forest management and strict regulations regarding cutting for development are required.

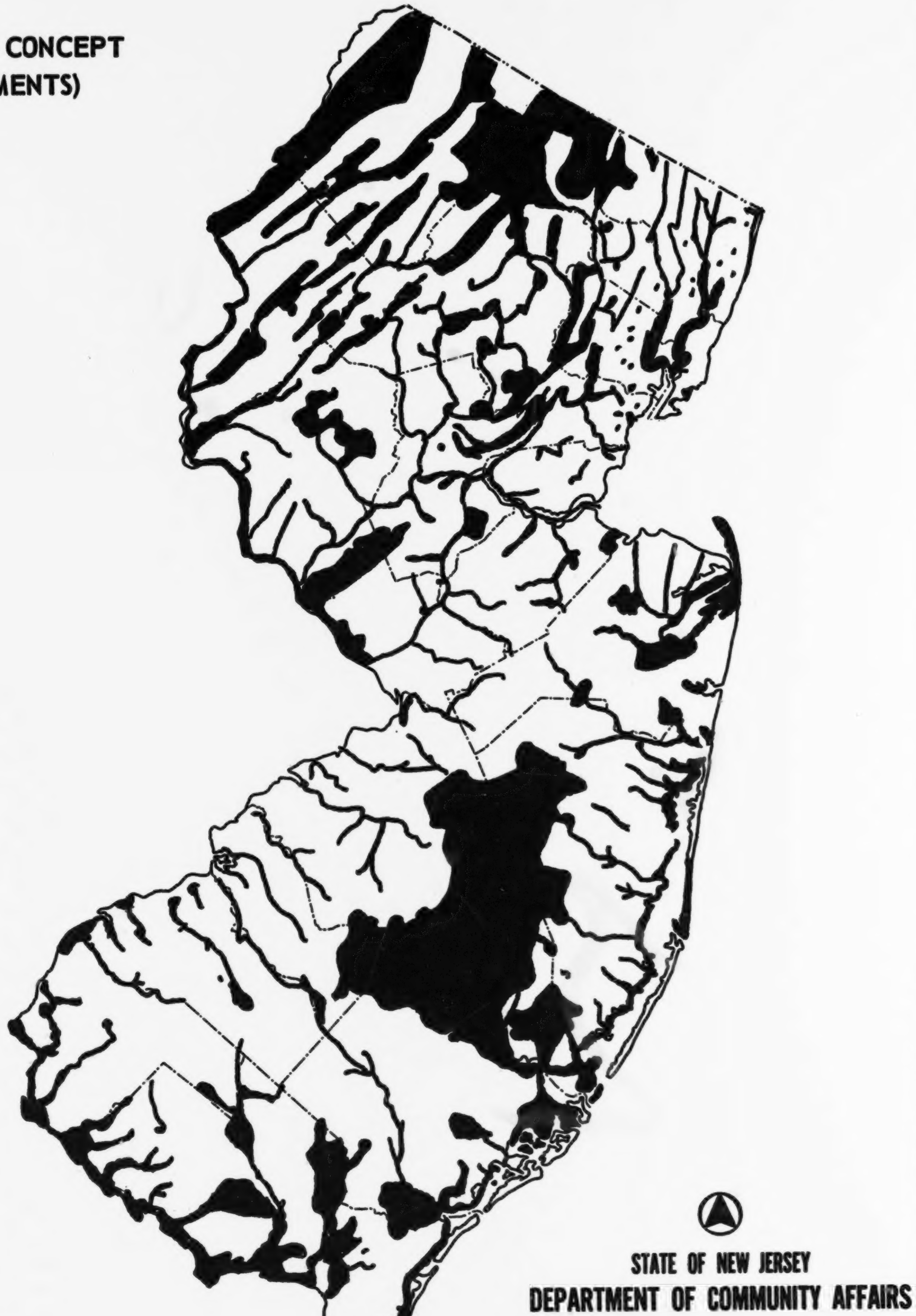
AGRICULTURAL LAND PRESERVATION—Highly productive farmland covers much of New Jersey and much of it is scenic in nature. Public interest in farmland may be required to retain the best land. The preservation of this land could provide recreation and insure food production in the State when the demand for higher land uses makes farming prohibitive. Lost farmland is very difficult to replace, if not impossible. Detailed study is needed to determine where desirable agricultural areas exist and where they can be preserved.

COASTLINE AND SALT MARSH PRESERVATION—Unfortunately, very little of the Atlantic coastline is left for preservation, but there are many acres of undeveloped Delaware Bay shore and salt marsh. This area along with the major rivers issuing from the pinelands would insure, if protected, open space and water for the development of south Jersey. The salt marshes along the coast, however, should be studied in terms of the natural functions they perform and policies should be established to protect those functions even though the land be privately owned.

A Statewide open space system recognizing these various elements would generally provide for the recreation and open space needs of the population and is a legitimate pattern for consideration. To the extent that urban development in the past has not recognized these elements of an open space system, certain deficiencies become apparent.

Figure 8

NATURAL FEATURES CONCEPT
(COMPOSITE OF ELEMENTS)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1967

DESIGN CONCEPT

This concept is concerned basically with the use of open space to shape urban development patterns, and several alternative uses of this concept are suggested. While natural features obviously must play an important role in shaping the resulting open space patterns, this role is a secondary one.

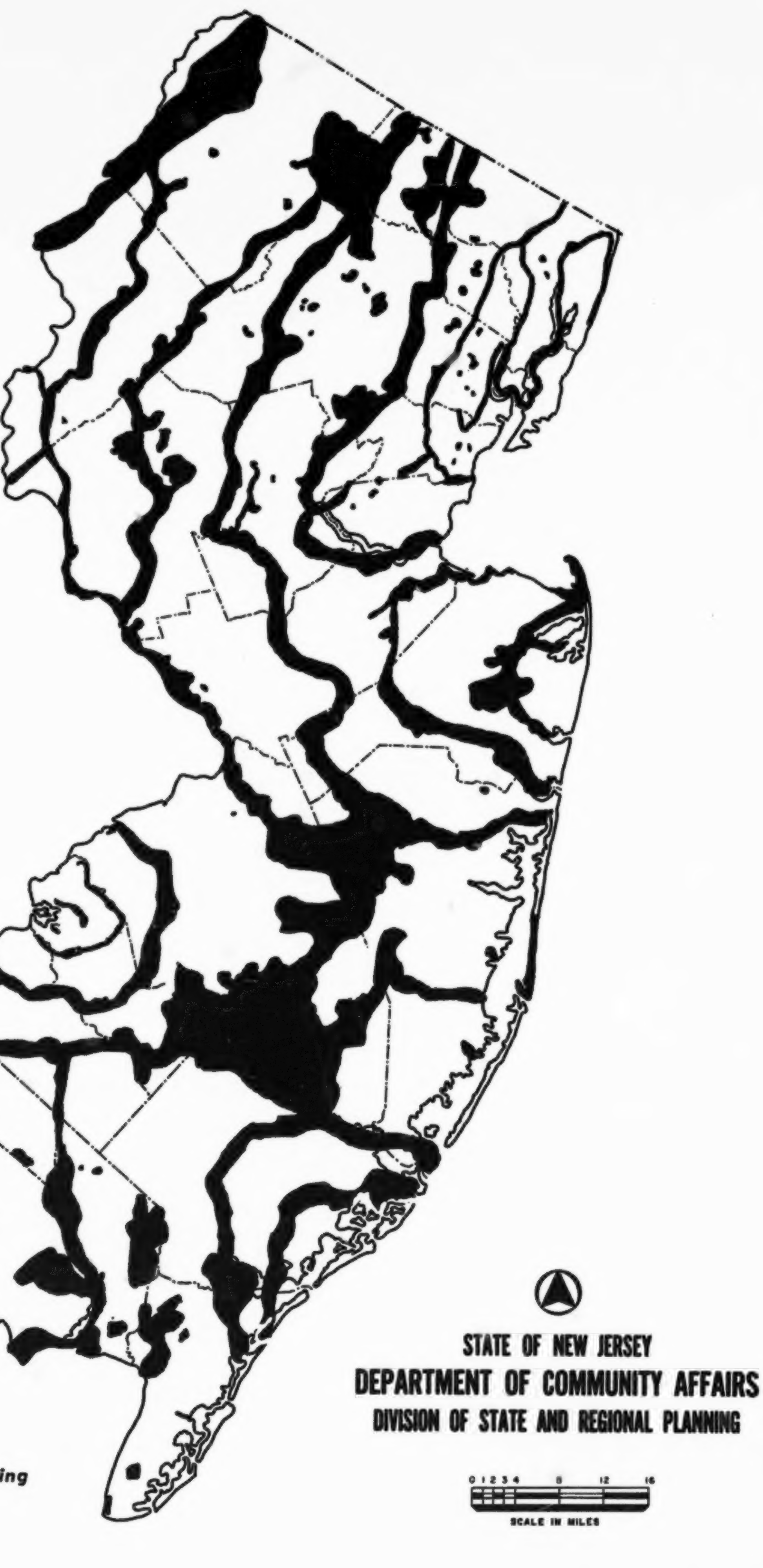
A system of this type not only provides guides to urban development and breaks in the urban pattern, but it further provides facilities in relation to where the people are located.

CONCENTRIC RINGS ALTERNATIVE—The rings of open space proposed under this Design Alternative become more extensive both in their linear continuity and in their width as the distance from the urban centers increases. While the responsibility for acquiring and developing the larger outlying rings would lie primarily with the higher levels of government, the high cost of land in the inlying areas suggests the need for grant-in-aid and other assistance programs to underwrite the acquisition costs of the innermost rings.

Since development tends to expand outward from built-up urban areas in a linear fashion along major lines of transportation, this alternative would provide a pattern of open space which would intercept and separate the spread of urban development. This would have two major effects. First, it would provide more direct access to public open space for large numbers of people, especially as public transportation facilities are developed in conjunction with the further concentration of population in urban corridors. Second, in the more out-lying areas of the State, the broader rings of open space would provide breaks or barriers to the outward flow of development, thereby limiting the spread of low intensity development and affording a more desirable overall land use pattern.

Figure 9

DESIGN CONCEPT CONCENTRIC RINGS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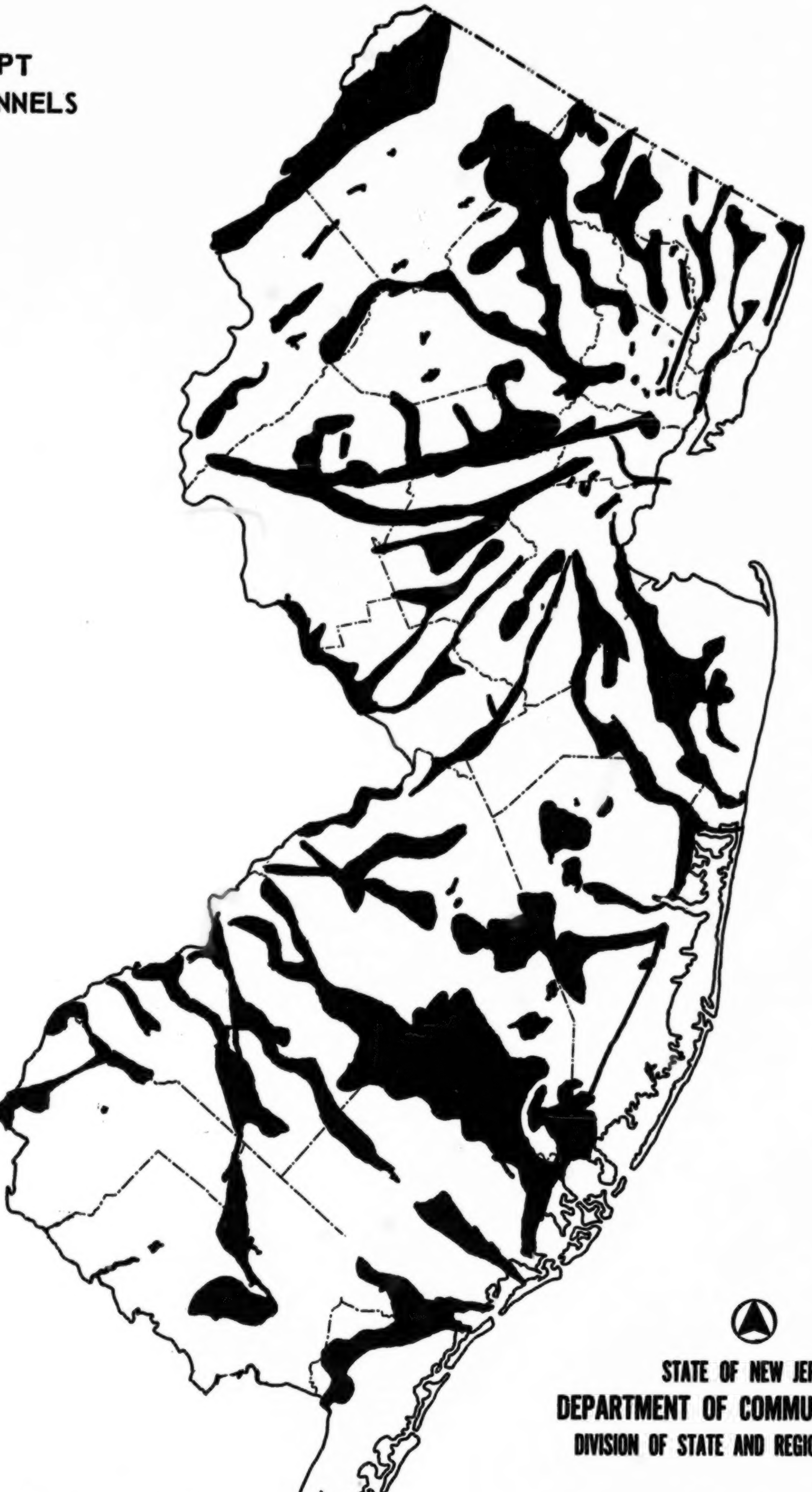
WEDGES AND CHANNELS ALTERNATIVE—This Design Alternative can be applied in several ways. The first application is to cut through urban areas to bring open space into the core. This would produce a spoke-like effect radiating from the urban center. One of the most generally applied methods is to utilize the major highways or freeways as the framework for such a system, with open space facilities located along both sides of the highways. The width of such open space facilities might vary from a few hundred feet to provide a screen between the highway and adjacent development to a mile or more to accommodate more intense recreational activities. Where practical, stream courses may also be utilized in combination with or independent from freeway development. Generally, this application is used to correct the deficiency of open space in existing urban development.

A second application of the Wedges and Channels Alternative is an attempt to guide development in the directions deemed logical and desirable. This approach could be applied most successfully in suburban or rural areas where the pressures for development have been small or non-existent, but where growth, if allowed to proceed unchecked, would be likely to spread. Through such advance planning, development could be channeled or guided into the most appropriate areas, and outstanding local features such as important agricultural lands, scenic areas, natural recreation areas, major highway interchanges, etc., could be protected for the use and enjoyment of future generations. On a statewide scale, such a concept could be applied to prevent the metropolitan areas of Philadelphia and New York from spreading across the State until they merge, as well as providing major open space between Philadelphia and the coastal resorts, and New York and the mountain resorts of northwest New Jersey. Using a different variation, this concept could be utilized to reinforce the "corridor" between New York and Philadelphia, to encourage it to grow in intensity and to strengthen it by limiting the width of its growth. From an open space point-of-view, this approach would require wide bands of open space on either side of the delimited corridor. Some of this open land could conceivably be protected through less than fee acquisitions and possibly the outer fringes could include low density development.

This Alternative could conceivably take a variety of forms. Whereas the previous Design Alternative of Concentric Rings cuts across the outward expansion of urban development, the Wedges and Channels Alternative provides an open space system which would parallel the direction of development. Such a pattern would more clearly define these development corridors and at the same time would serve to limit the width of such corridors. Since the wedges of open space would be most effective in close proximity to existing urban development, they would afford a most desirable system to meet the pressing open space demands of urban residents.

Figure 10

DESIGN CONCEPT
WEDGES & CHANNELS



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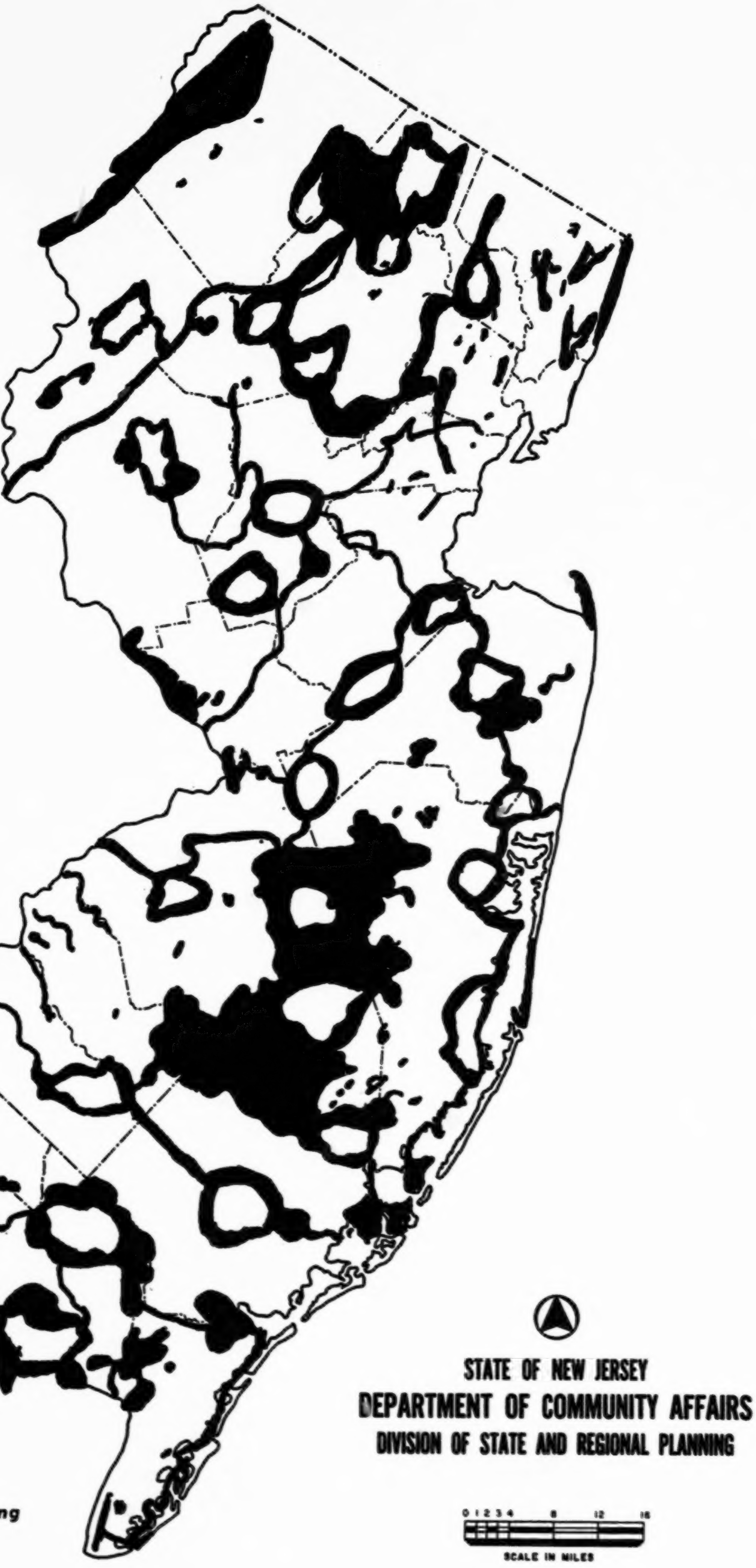
CONTAINERS ALTERNATIVE—The Design Alternatives discussed to this point have suggested that open space should be used primarily to protect natural areas, to cut through urban development, or to channel urban growth. The Container Alternative suggests that open space could also be applied to limit urban growth to a predetermined size by surrounding a developing area with a wide band of open space. This is not a new concept. Around the turn of the century in England, the concept of "new towns" or "garden cities" was developed, whereby each new town was a complete, relatively self-sufficient community surrounded by open countryside or a "greenbelt" which served the recreational and agricultural needs of the people as well as limiting further outward development. Since that time, the concept of new towns has been modified to meet changing social conditions, but the validity of balanced land use has become stronger. This has been especially true in most recent years because of the sprawling low density development which has occurred around old urban centers and the rapidly increasing population demanding more facilities. Using open space as a container of development could work if used to surround existing urban centers or if used in defining boundaries of new centers of development. The statewide application of the container theory would conceivably preserve more than 20 percent of the land area for public open space.

Under this Design Alternative, a significant modification in open space acquisition policies would be required. Major land holdings currently designed to meet recreational or conservation needs would continue to function in this capacity. However, the emphasis on new acquisitions would have to be shifted to smaller areas capable of serving as an integral part of a "greenbelt." This Alternative would afford the maximum in user-oriented facilities, since the open space system would be developed in close proximity to the urban areas.

Figure 11

DESIGN CONCEPT CONTAINERS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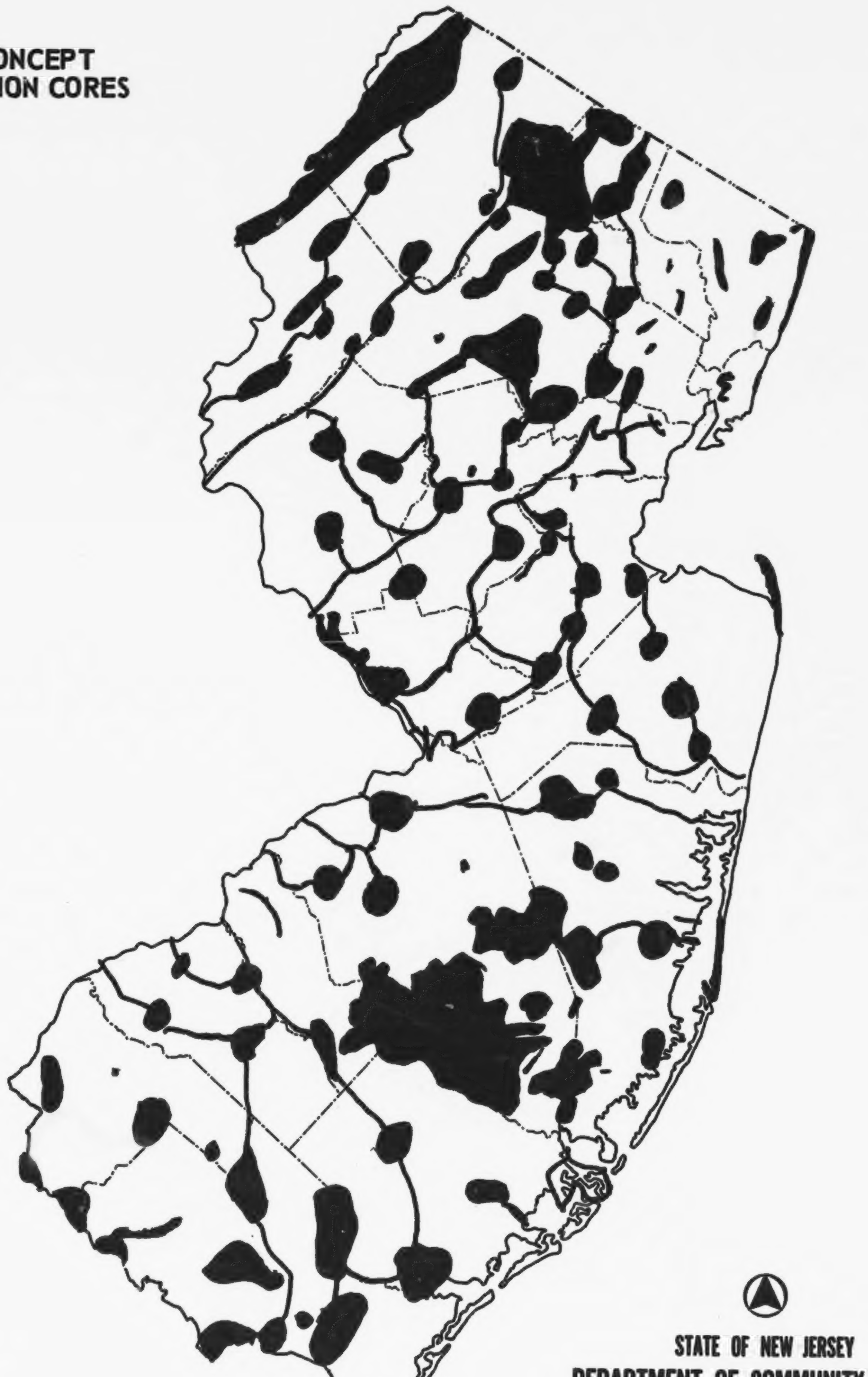
RECREATIONAL CORES ALTERNATIVE—In the Recreational Cores Alternative open space would serve as the focal point for urban development. Central Park in New York City is an excellent example of this, in that its location size and configuration were chosen in terms of serving an urban area, and did not relate specifically to water or other natural features. The possibility of this approach being feasible has been brought about by the growing prospects of automation whereby an office worker might work at home and relay his completed works to a central office or control center. This would permit more people to locate their residences closer to choice areas, particularly recreational and resort areas. Even without such a radical departure from the current norm, the increasing amount of leisure time could provide the impetus for such an alternative. Using the theory, emphasis would be placed upon the outstanding recreational and resort areas of the State. This, in turn, suggests that new urban growth will center around or adjacent to these facilities.

This alternative would be particularly appropriate in connection with the Multi-Corridors Development Alternative of the Horizon Planning Concept, since this pattern of land use features "pockets" of open space formed by development corridors. This alternative could also be successfully applied to the New Urban Centers Development Alternative.

Figure 12

DESIGN CONCEPT
RECREATION CORES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Open Space Principles Applicable To Future Statewide Planning

It should be evident that it is unlikely that any one Open Space Concept could be applied uniformly to the State of New Jersey. The open space and recreational needs of the various sections of the State exhibit considerable differences at present and are likely to continue to do so in the future. The physiographic features of the northern part of the State differ significantly from those of the southern half, suggesting the need for differing solutions to the problems of open space planning in the future. A comprehensive policy concerning the State's natural resources would indicate that a variety of approaches be applied to insure the adequate protection and preservation of these resources. It may also be anticipated that the future patterns of development in different parts of the State will require a flexibility in the planning for open space which could not be provided by any one single concept. Therefore, just as the Horizon Plan is likely to be a combination of the best elements of several of the Development Alternatives, a long-range open space system to meet the needs of the State's Horizon population of 20 million must also combine the positive elements of each of the previously discussed Open Space Concepts and apply them to the parts of the State where it will be maximized.

The selection of such a long-range open space system must be based upon an over-all set of policies as to the role of government in guiding and controlling future growth and development. It is anticipated that as a part of the Horizon Planning process the Governor's Interdepartmental Committee for State Planning will assist in the formulation of a statement of policies as to the role of State government in this regard. In this connection, it will be the task of the Open Space Subcommittee of the Governor's Interdepartmental Committee for State Planning to study the materials contained in this report and to provide recommendations with regard to the long-range planning for open space in New Jersey.

Although the selection of an open space system appropriate to serve the needs of the State's Horizon population must await further deliberations by the Open Space Subcommittee of the Governor's Interdepartmental Committee for State Planning, there are a number of principles which can be applied to the more immediate planning of open space. These principles stem from those elements of the various Open Space Concepts which can be identified as being held in common. In the next chapter, an effort will be made to apply these principles (in part) to the formulation of a comprehensive open space system for a ten million level of population. At such time as policy decisions are made on corridor development, new towns development, or some combination thereof, then it may be possible to concentrate the emphasis of an open space program on its role as a shaper of development patterns.

Open Space Principles

1. *Recreational needs and the opportunity for a wide range of recreational experiences should be met by sites which are convenient to potential users and possess natural characteristics appropriate to the intended functions.*

Convenience here is taken more broadly. Depending on the type of recreation facilities and the nature of the site, convenience can mean anything from a five minute walk to a neighborhood park to an hour and a half drive to a site such as the Delaware Water Gap National Recreation Area project in the northwest portion of the State.

The key to convenience is the recreation function performed by the area. A policy of obtaining the most acreage for the fewest dollars has led in the past to the acquisition of large areas of vacant land at considerable distances from the major concentrations of population in the State which they should serve, and often having questionable potential for intensive recreation due to their inaccessibility. Although inlying sites may be considerably more costly, 10 acres of open space which is accessible and which offers the potential for frequent recreational use by large numbers of people may more adequately meet the open space needs of our population than 100 acres located at some distance from urban areas or 1000 acres of remote and inaccessible open space which can provide recreational experiences to relatively few people.

It is not necessary to go into a long explanation of the increasing demand for outdoor recreation areas so let it suffice to say that the 10 million plan is, in large measure, aimed at meeting the recreation desires of New Jersey's concentrated population. The plan for 20 million population will give more emphasis to shaping development as well as providing recreation areas and areas of natural value.

Out of their incomes, and of their own choice, people choose to spend large amounts of money, mental and physical energy, and time from their limited leisure in actually partaking of recreation. These actions are adequate proof of the importance that people attach to recreation. They are also willing to pay taxes for public activities in the recreation field, and demand from government at all levels that recreation opportunities be provided. All these activities of people, on the scale which they are actually found, are the most convincing possible evidence of the importance which most people give to recreation.[1]

This demand for recreation is particularly relevant in New Jersey considering the density and concentration of our metropolitan areas.

Although there is hope that commercial recreation in the private sector of our economy will react to this need, we can not, as a responsible government, be dependent on this to happen. It is an obligation to the citizens of New Jersey to insure that their recreation needs will be met now and in the future.

In the previously discussed Open Space Concepts, the suggestion is made that inlying sites be given the highest priority for acquisition. Special emphasis should be placed on sites in those areas where rapidly rising land costs may prohibit acquisition in the near future. Each level of government must assume the responsibility for reserving its share of the total open space system sufficiently in advance of development to avoid the substitution of inferior sites. However, this is not to say that large and distant lands should not be acquired when available. It is simply a shift in emphasis to provide open space in close proximity to the people where it is more urgently needed. As time goes on, the distant parcels will become closer to new populations.

2. *The concept of multi-purpose use should receive prime consideration.*

The growing scarcity of land in New Jersey due to rapid urbanization makes it imperative that multiple land use practices be applied wherever possible. Multi-purpose recreation use of land is good economics whether it be applied in the densely populated areas or farther out in the country. While multiple purpose areas are certainly of benefit to the public and the owners or operators, it should always be remembered that most conservation areas have a principal purpose or intent and that this purpose should never be sacrificed in an effort to maximize the benefits of the secondary purpose.

For example, fish and game lands not used as breeding areas can easily lend themselves to multi-purpose use because hunting is generally restricted to the cooler months of the year when outdoor recreational activities are no longer engaged in by the majority of the people. Often these sites are wooded, in areas of varied topography, and/or contain bodies of water or have water courses running through them. The possibilities for recreation on these sites are numerous; however, these lands have in the past been precluded from any use other than hunting and fishing because they have been purchased with dedicated funds from license fees.

The protection of flood plains from urban encroachment prevents possible future damage and injury to structures, life and limb which would otherwise have been located in these areas. In addition, these areas can often be used for recreational purposes and lend themselves to hiking and riding trails because of their long sinuous form. In many sections of the country, wetlands located within the flood plain serve as retention basins to control the amount of potential runoff from rainfall and supplement the recharge of local well systems.

3. *All significant reservoir sites should be acquired outright or reserved through the acquisition of development rights.*

The assurance of an adequate supply of water will be a key factor in the orderly growth and development of New Jersey. Inventory studies have shown that there are sufficient sites in the northern portion of the State to supply the water needs of this area in the future. However, these potential sites are rapidly being encroached upon by the spread of urban development. Such sites should be given the highest priority for protection.

Preserving significant reservoir sites has been heightened in importance with the advent of the present water crisis in the Northeast. In the Department of Conservation and Economic Development's 1965 monograph, *New Jersey's Water Resources*, page 24, map 3 provides ample evidence of what happens when prudent and responsible measures are not taken to protect water—we lose irreplaceable reservoir sites.

Water is the most important natural resource for the processes of living. Coupled with the industrial and agricultural demand for water the total need is monumental. Population growth in New Jersey, a state which still has a substantial amount of undeveloped land, will find ever increasing needs for water in the future.

An example of the concern the State has for its future water supply was the timely purchase of the Wharton Tract in the Pinelands of southern New Jersey. Beneath this land there is an immense supply which has a great potential provided that its recharging processes are not disturbed. However, we must also be aware of the importance of all potential water sources whether they be large like that under the Wharton Tract or moderate in size such as Ramapo in north Jersey.

Areas where potential sites exist and are endangered by encroaching urban development should be given highest priority.

While some day we may get our water from the sea we can not assume that this will take place in the immediate future, and further, reservoirs have a substantial recreational value. Sites should be acquired in fee simple or reserved through the acquisition of development rights or the use of tax policy measures. Those not in immediate need could be used for outdoor recreation purposes until such time as their development is needed. Multi-purpose use should also be applied to certain existing sites. After development, a management practice of multi-purpose use should continue to serve the highest recreation potential commensurate with the prime use intended.

The activities generated by a reservoir are numerous including the most directly related—such as boating, fishing, and swimming—as well as those less directly related such as camping, picnicking, hiking, and scenic attractions of all types.

4. *Every attempt should be made to re-establish the balance of natural processes through*

the proper design and location of open space facilities.

Here we are concerned with the degree to which natural processes perform work for man without his intervention and the protection which is afforded by leaving certain sub-processes in their natural state without development.

Water purification occurs best in natural water bodies inhabited by the normal acquatic organisms. Relief of air pollution can only occur as a natural process if, adjacent to urban areas, there are open areas free of industry or concentrated development, over which air passes to replace the concentration of polluted air over the city. Natural areas can perform this "air shed" function.

We must be aware of the micro-climate amelioration provided by vegetation, water bodies and forests; the normal watershed as a water storage system with flow equalizing components; and the phenomenon that surface and sub-surface water are usually connected.

Other subjects for concern are flood control, erosion control, topsoil accumulation and wildlife inventory.

Development policies should be aware of the role of marshes for water storage areas critical for flood prevention and for aquifer recharge. They are a habitat for a wide range of creatures, the spawning grounds for fish, and stages on the flyways of migratory birds.

Flood plains, when developed irresponsibly, have caused much distress to people and damage to property. Flooding increases when increased development reduces absorption.

Acquifers should be protected because of their water-bearing potential. No biological process can dispense with the use of water. Aquifer recharge areas should be protected for the same reasons as aquifers.

Steep lands should be protected against development since development removes forest cover and contributes to erosion.

Forests and woodlands are the natural vegetative cover for many regions. They exert an ameliorative effect upon the water system, diminishing erosion, sedimentation, flood and drought. Their scenic role is apparent as is that of providing a habitat for game. Forests too, have a high recreation potential. In addition the forest is a self-perpetuating landscape, a resource in which the accrual of timber inventory is continuous. Thus, forests and marshlands should be utilized for watersheds, airsheds, forestry and recreation.[2]

"In natural communities ecologists observe a certain harmony among the various members—an ecological balance. If this equilibrium is seriously disturbed, there results a stress which, if prolonged, may threaten some elements of the community and, in turn, the survival of the whole. This principle is also applicable to man-made communities. Urban society cannot flourish without the support and balance of living things other than man. The steadily growing density of human settlement within metropolitan areas, the unrelieved development known as urban sprawl which results from our excessive hunger for land, is a violation of this principle which may have serious consequences."[3]

"It is in sheer ignorance that we do not treat crucial natural phenomena with the same respect as we do such mechanical ones as cars and television sets. The late Aldo Leopold, one of the nation's leading conservationists, expressed this point succinctly: 'We know that engines and governments are organisms; that tampering with a part may affect the whole. We do not yet know that this is true of soils and water. Thus men too wise to tolerate hasty tinkering with our political constitution accept without qualm the most radical amendment to our biotic constitution.' "[4]

Closely related to the previous principles, the proper design and location of open space facilities can contribute to the restoration of a balance in natural processes which may have been upset by urban development. The proper recharge of acquifer areas should be aided, where possible, by the design of a comprehensive open space system. This is of particular importance in the southern half of the State. This might be accomplished through the development of impoundment ponds as an integral part of the total open space system. Such facilities would serve to augment the natural recharge of aquifers, while at the same time providing recreational areas developed under the multi-purpose use concept.

Areas of important fishery and/or wildlife resources should be retained in a natural managed state where possible, and new areas should be created if existing ones are displaced. Closely related to these two factors is the problem of the pollution of certain coastal areas.

5. *The retention, design, and development of breaks in the urban pattern should be encouraged.*

Obtaining adequate lands for open space and recreational purposes in urban areas is an extremely perplexing problem and promises to increase in its complexity as the demand for land increases. Given a limited amount of land area and untold possibilities for development of that land, it is important that urban land use be prudently guided. The possibilities of providing open space in urban areas are many, limited largely by the designers' ingenuity and by legal restrictions. One of the classic methods is to utilize school playground areas to the maximum for community-wide use. Here the prejudice between different agencies often is a stumbling block and one which must be overcome. A second method too seldom used is to utilize strips of land along freeways and stream courses. Existing waterways are perhaps the biggest single potential source of recreation in many urban areas, however, their potential for boating, fishing, water skiing, etc. are often destroyed due to pollution which occurs when adjacent land uses are not adequately controlled. For health and appearance reasons, as well as for recreational uses, waterways (particularly those in urban centers) should be improved to a reasonable level.

In almost every urban area there are numerous vacant lots and irregularly shaped and unbuildable parcels. An inventory and review of such areas might provide a key to developing a neighborhood system of open space. It is also possible that small areas could be coordinated with local renewal projects the result being that land could be set aside for recreational purposes in those parts of the city where the needs are most acute. The prospects for creating open space in conjunction with urban renewal are innumerable, ranging from open green areas around new structures to the dedication of larger parcels to serve as part of the municipal or regional park system. In some areas, renewal techniques have been used effectively to open up vistas or to serve as connectors between buildings or areas of historic significance. Perhaps the best example of this is the Independence Mall and Society Hill areas of Philadelphia. Other possibilities include the provision of green areas in conjunction with underground parking facilities and/or in connection with major shopping or business districts. The Golden Triangle and Mellon Square in the City of Pittsburgh provide excellent examples of the former technique, while the central business district of Kalamazoo, Michigan illustrates the application of the latter technique.

In extremely high density areas, it is quite possible that rooftops could be used as outdoor cafes, to serve as promenades between buildings, or to provide park settings. Buildings should be adequately set back from the street providing breathing space in the teeming city. To date only a few attempts have been made in this direction; however, the potential use of such areas has been virtually unexplored. In New Jersey, it has been suggested that such an approach be applied in connection with the development of the proposed Liberty Park project along the Jersey City waterfront. Liberty Park will be the first major State recreational facility to be developed within the more heavily urbanized sector of the State. The site of this proposed park is the railroad yards along the waterfront behind the Statue of Liberty. The projected proposals for this site will undoubtedly have to recognize needs for specialized waterfront facilities. Making the best use of a concentrated urban development situation may dictate the multiple-use of structures from both commerce and recreation such as using an extensive roof area for recreation parking and a recreation-overlook facility.

Neighborhood parks (when properly designed, located, and of sufficient size) serve as the ultimate in multi-purpose use. These sites are important because they serve the everyday needs of every group in the community from the toddler to the retired elderly. In many areas, the neighborhood school and playground serve as the heart of the neighborhood park. Where the school's physical plant has been incorporated into the park and recreation system, the use of the area is extended into the evening hours and offers the potential of a year-round program.

Perhaps the key to providing an adequate open space system in urban areas, or anywhere else, is the need to acquaint the people on how to develop and use the facilities. This educational need reaches in all directions from the general public to the areas of business and industry. While the public must be taught the value and potential of open space, the business and commercial interests must be shown that aesthetic treatment of open space adjacent to shops, shopping centers, and business is financially a sound investment.

Since many areas which are not entirely suitable for urban development are built upon anyway, open space can play an important role in the guiding and shaping of urban development. Aside from its role as a break in the denseness of the urban pattern, open space can serve to help establish an orderly and rational pattern for urban development.

The northeast section of the State is (for all intents and purposes) totally developed, therefore, open space would (in this instance) not be a guide or a shaper of development, but would offer the amenities of open land within and near this dense settlement.

As we move out of this area the shaping role of open space becomes more important. It is not healthy in any sense for development to take place in a non-rational, haphazard manner. Open space can be used as a major tool in preventing this from occurring.

Judicious location of open space can be a major factor in creating pleasing aesthetics in the midst of the dense development, whether it be on the neighborhood scale or the county and state levels. Good open space design and aesthetic considerations tend to support, if not raise, property values.

Because of the scarcity of land for open space within our built-up areas it is desirable to explore any means to introduce some open space for the enjoyment of the population whether it be a rooftop garden or a large county park.

Some of the types of open space to be used in guiding urban growth might include green belts to delimit the extent of urban development and to delimit and define future residential areas. Broad green areas adjacent to future parkways in outlying suburban areas might also be established. In addition, flood plain areas and stream conservancy areas could be incorporated into an open space program. Prohibiting development close to airport facilities will protect both parties. Protection of agricultural land from total loss by urban encroachment and land speculation is a serious problem.[5]

The area of agricultural land policy needs more detailed study. There should by an estimation of how much land should remain in agriculture at the 20 million level of population and the very important question of rate of land use change. The current highest and best use of farm land may be for development but in the next 30 years the farm land may be more valuable for food production and open space.

With our large amounts of open space in New Jersey, we have been slow to adopt measures that older, more densely populated countries than ours have been employing for decades or longer. England, Sweden and most of the countries in continental Europe prevent the total obliteration of their countryside by city sprawl through the maintenance of greenbelts and other low density patterns, land kept in its natural state around or adjacent to the perimeters of their congested metropolitan areas and between suburban communities.[6]

6. *In the broader urban region, public and semi-public low intensity land uses should be retained (through public subsidy if necessary) to maximize their contribution to the over-all pattern of open space and development.*

The possibility of applying tax concessions to golf courses, summer camps and camp grounds, and to other semi-public recreational facilities should be investigated. The location of air facilities should be coordinated with open space plans and their approaches should be protected from urban encroachment. Certain major agricultural areas should be included in future comprehensive open space planning to assure their continued use as prime agricultural regions, to forestall the premature abandonment of farming, and to contribute to the overall aesthetic patterns of open space. Agricultural land does not pollute the air, nor does it demand sewer and water lines, garbage collection, police protection, schools, and railroad sidings. It does not generate volumes of traffic that demand more and more roads. Here, man and nature work together to mutual advantage, instead of upsetting one another.[7]

7. *Wherever possible, natural scenic resources should be protected by open space planning and related to the emerging patterns of urban development.*

The protection of scenic features was a major criteria in the formulation of the various Open Space Concepts. It will be necessary in the future to develop new techniques for the preservation of roadside scenery and to insure that a representative sample of all unique natural features, and historical or cultural sites should be preserved for education and enlightenment of future generations.

Preservation of roadside scenery becomes more crucial when we consider the fact that by the year 2000 only swimming will have a higher participation than driving for pleasure and this by only a small margin.[8] Existing historic buildings and sites should be incorporated into the open space system and deteriorated or destroyed buildings and facilities could be restored or recreated to exemplify all phases of the State's past history and development. Certain unique urban complexes typical of different periods of the State's development should be identified and attempts should be made to preserve their aesthetic, cultural, and historic character. Batsto Village is a good example of this policy. A number of picturesque rural centers should also be preserved in their present state or restored to former stages of development.

All unique geological, botanical, and ornithological sites should be preserved in their natural state and acquired if necessary. Wherever possible, access to and utilization of such natural resources should be incorporated into the open space design.

8. *A system of interrelated hiking, canoeing, bicycling and riding trails should be developed on a regional basis to allow recreational exploration within and between the various regions of the State.*

Such a system of trails could be applied in varying degrees to each of the previously discussed Open Space Concepts. Roadside parks should be developed where major highways cross major open space areas as in the Concentric Rings alternative or where highway systems parallel open space holdings as in the case of the Wedges and Channels alternative.

9. *Further planning should be encouraged at all levels to more clearly define the goals and objectives pertaining to the character and intensity of urban development within the various regions of the State.*

This, of course, is related directly to the Horizon Planning Concept. The interrelation of the basic patterns of development should be the subject of public policy decisions, and the role of open space and other land uses in the pattern of development should be carefully defined by the respective levels of government.

10. *The role of the private sector and of commercial recreational facilities should be more clearly defined.*

Although the majority of this report has been directed toward the responsibilities of government in meeting recreational needs, it should be pointed out that there are numerous aspects of recreation which are and should be handled by private and commercial interests. In addition, there are areas in which commercial interests should not and probably will not become involved. Between these two extremes are numerous activities which are engaged in, to greater or lesser degrees, by both private interests and government. The "recreational revolution" has created a situation of flux for many activities which have normally been considered the prime responsibility of either government or private enterprise. However, in the overall view indications are that government has enlarged its area of involvement more so than the private sector. Possibly the single most important factor which has brought about this change is the increasing urbanization and the resultant competition for land. The demise of private golf courses in urban areas and the increase in the number of public courses is one example of the changing situation.

In many areas of the country, private enterprise with large land holdings (such as the lumber industry) are engaging in the development of tourist trade activities in their areas. Generally, however, private enterprise will serve as an important auxiliary to a major governmentally owned and operated facility. For instance, a lake or reservoir which is governmentally owned may have numerous concessions for marine facilities, lodging, or other related services. The access roads leading to the reservoir site might have private recreational facilities located along them in an attempt to capture the trade of tourists and vacationers coming to the site. In addition to this auxiliary function, private recreation areas have been developed due to the attractions created by the large amounts of public money spent on recreation. As more people look for different ways to spend their leisure time, new commercial recreational activities will continue to grow. Generally, these private facilities are of a higher character and quality than comparable public facilities, since private facilities cater to people who expect a little quality and can afford to pay for it. Private hunting and fishing areas are a typical example of more costly facilities.

In short, private recreational facilities meet a very real need in our modern society and, for this reason alone, they are valuable. In addition, private facilities augment the supply, and (in certain areas) reduce the need for public involvement. Finally, certain facilities provided by private enterprise are too costly and cater to too few to justify public expenditures.

Having thus defined the various Open Space Concepts under the Horizon Planning Concept and having outlined those general principles which are applicable to these Concepts, it is now possible to set forth a suggested system of open space to guide acquisitions to serve a ten million level of population. This system will be guided by the principles set forth in the previous section and will be designed to be adaptable to any of the Open Space Concepts which may be developed for the Horizon level of population, ie., 20 million persons.

FOOTNOTES

1. Marion Clawson, *The Dynamics of Park Demand*, Bulletin No. 94, (New York: Regional Plan Association, 1960), p. 7.
2. Donald C. Wagner, "Open Space and the Natural Process," *Horizons for Modern Governments*,Vol. XIII, No. 2 (Associated Institutes of Government of Pennsylvania Universities, February, 1965), pp. 1ff.
3. William A. Niering, *Nature in the Metropolis*, (New York: Regional Plan Association, 1960), p. 7.
4. *Ibid.*, p. 7.
5. John B. Moore, "Wanted—More Open Space in Growing Areas," *American City*, Vol. 71, (January, 1956), pp. 94-95.
6. Ann Louise Strong, *Open Space in the Penjerdel Regions Now or Never*, (Philadelphia: Penjerdel, 1963), pp. 16-17.
7. Donald Rippey, *Ways and Means of Preserving Prime Agricultural Land in an Exploding Urban Setting, With Special Reference to the State of New Jersey*, a planning report, Middlesex County Planning Board, June, 1966, p. 2.
8. Outdoor Recreation Resources Review Commission, *Outdoor Recreation for America*, (Washington: U.S. Government Printing Office, January, 1962), p. 220.

CHAPTER VII

THE OPEN SPACE POLICY PLAN FOR THE TEN MILLION POPULATION LEVEL

The purpose of the Statewide Open Space Policy Plan is to delineate generalized open space sites that will meet quantitatively the open space standards for 10 million persons in the State of New Jersey and provide some lead in advance of development pressures. Present population estimates indicate that this 10 million level will be reached between 1985 and 1990.

This Plan is part of a continuing State effort to supply publicly dedicated open space. The efforts of Green Acres, which operates as an acquisition agency for State agencies and provides assistance to local governments, and the approval of the Delaware Water Gap National Recreation Area (DWGNRA) have brought total open space acreages close to the megalopolitan and state standards for the 1965 estimated population of 6,800,000. Even though the National Park Service and Green Acres are acquiring much acreage, they do not solve the equally important problem of additional open space for the currently densely populated urban areas. The areas of New Jersey that are developing at this time, and may be fully developed by 1985-90, should be shaped and protected by an enlightened open space plan that will meet the aforestated principles of open space and save the new areas from the monotony of unending sprawl.

This developing suburbia is the Critical Area of New Jersey. The map below is a generalized map of this Critical Area showing in black the developed land in 1960. The shaded area indicates the projected areas of intensive urban development by 1985-90. This shaded area is now experiencing the greatest development pressures and because of these pressures planning problems are intensified, but this area also has the potential to become one of the most desirable places to live and work in the East. Every effort should be made (starting now) to ensure a desirable future environment, partly achieved and enhanced by open space.

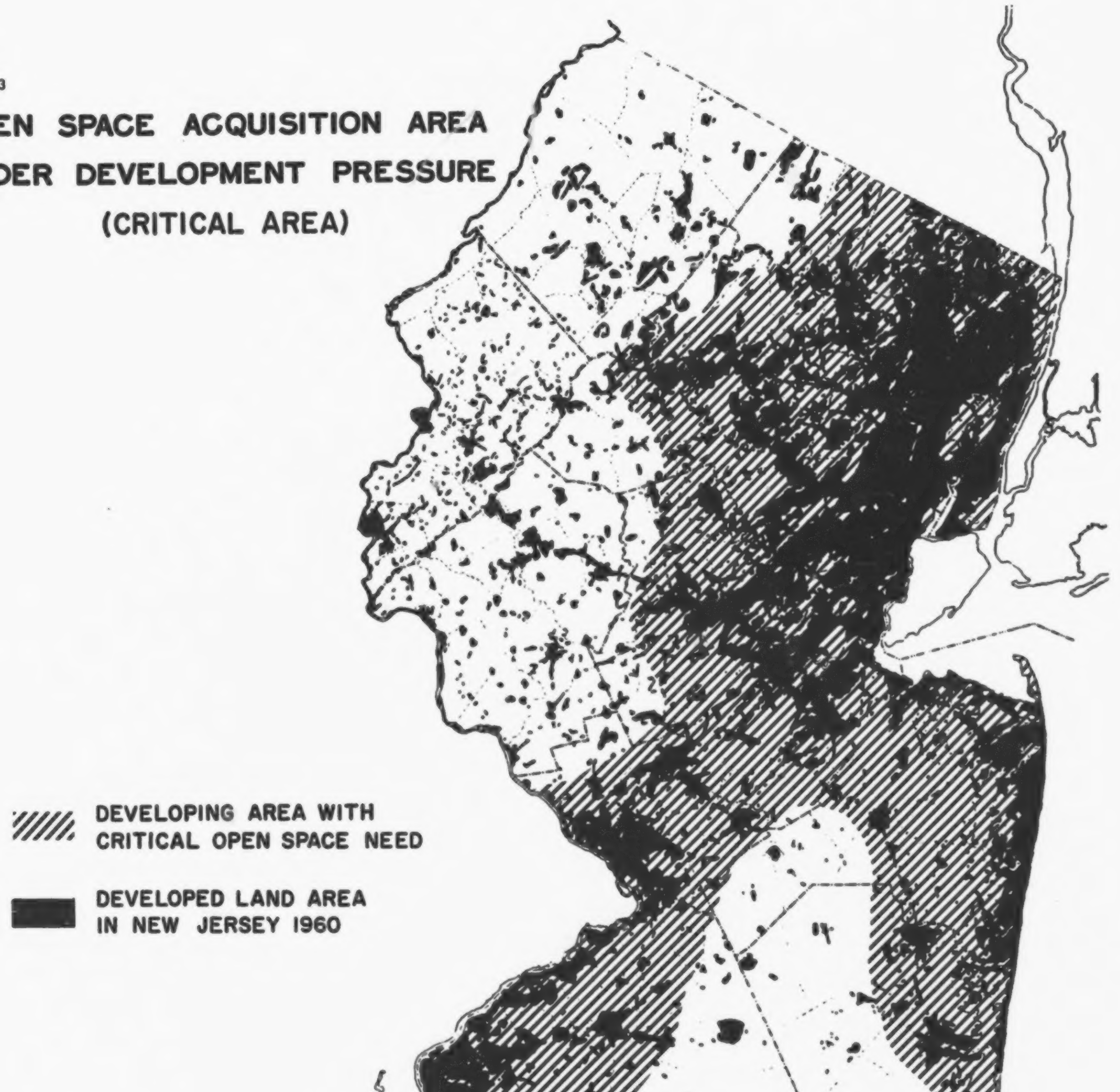
The cost of open space, transportation, water resources, communications, and services well planned and adequately provided will be balanced many times by attracting desirable and valuable development and maintaining high land values for many years. The cost of correcting the land use errors in the future will be tremendous. This Critical Area of New Jersey is certain to develop rapidly either causing future serious problems, or (if well planned) enhancing the State's growth.

While the Ten Million Open Space Policy Plan will show ways to apply open space acquisition to the Critical Area, it will also show in principle that other less critical and unique areas of the State should not be neglected. The small sections of the rural counties that are showing an increase in residential land use should begin to apply standards that will reserve adequate land for future open space and supply the necessary parks for local use as well as shaping future development into a desirable pattern.

Figure 13

OPEN SPACE ACQUISITION AREA UNDER DEVELOPMENT PRESSURE

(CRITICAL AREA)


▨ DEVELOPING AREA WITH CRITICAL OPEN SPACE NEED
■ DEVELOPED LAND AREA IN NEW JERSEY 1960
STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING
0 1 2 3 4 8 12 16
SCALE IN MILES

SOURCE: Compiled by the Division of State & Regional Planning 1967

There are reasons to hope that counties anticipating future development will plan for future public land needs by obtaining public open space at todays lower prices in anticipation of future demands. The Ten Million Plan will assume that the large major land holdings in the rural areas (not yet "under the gun" of development) are adequate until the plan for twenty million people is available. The dollar for open space may go more than twice as far in acquiring a quantity of land in rural New Jersey, but that quantity of rural land at this time will be of little additional value to the overwhelming urban majority of the population. The rural county, which has little or no public county open space, should take advantage of the relatively low price of open land and use this ownership to guide future development.

Counties that are fully developed know the costs of trying to redevelop an area for open space. Once the land is changed from an open character to a more intensive use a great deal of money and effort is required after years of abuse and degeneration to renew the area and provide the amenities that should have been part of the original development.

This Plan makes a limited number of recommendations in terms of large land areas for the presently urbanized areas of Hudson, Essex, Union, eastern Passaic, and Bergen Counties. County and city planners have been working on the problems of this area and recognize the need for open space as part of the renewal programs that the Federal and State governments are supporting. The cost and effort that is now being expended in these urban counties can serve as a warning to the urbanizing counties. While there are examples of excellent park planning, using the county standard of 8 acres/1000 population for the five named counties we still have an area deficit of approximately 12,000 acres based on the 1960 populations of the counties.

The effort at the State level in the urban areas has shown some results. Liberty State Park (proposed in very intensively developed Jersey City) will add open space of regional significance, and equally important, active recreation areas will be developed for young and old. In addition, a new point of access to historic sites of national importance will be provided. Other State level facilities which have been purchased or are active projects include Great Piece Meadows, partly in Essex County, and extensions of Palisades Interstate Park in Bergen County. The development of other areas through urban renewal programs can utilize the principles of open space and recreation in the urban counties although it is much more difficult to correct the problem after undesirable land use patterns have been established.

The Plan

An open space pattern to serve the 10 million level of population in New Jersey has been selected with emphasis on the generalized "Critical Area." The selected areas are designed to make open space accessible to every resident within 30 minutes or less driving time. The open space pattern will assist in creating desirable breaks in the urban pattern of growth and is designed to connect existing isolated open space areas. This will afford definable limits to urban growth.

Included as open space areas are, schools, hospitals, institutions, as well as parks and recreation areas. Land controls can be used to further limit the infringement of intensive development on land of low intensity use, and thereby protect grouped open uses.

To further the goal of protecting the natural processes in the State, the open space pattern partially protects what remains of reservoir sites, water sheds, aquifer recharge areas and a number of the very important flood plains, although further study is needed in this area. The Raritan basin is especially critical at this time. The Plan reflects an attempt to control major stream courses and develop places for recreation along these same courses. Without this protection the Raritan could lose its recreational (and to some extent) open space value as in the Passaic River through the continued abuse by industrial waste and sewage pollution.

No less critical are swamps and low gradient stream flows into the Delaware River. The continued flow into aquifers can be continued and partly preserved by protecting the suggested areas.

Water is man's most important natural resource. The State has an obligation to its people to see to it that this resource is readily available now and in the future. The most direct method to accomplish this would be outright purchase of those sites that have high potential for use as reservoirs.

Probable increases in the present uses of water will be compounded by expanded utilization of such items as office and home air conditioning, construction of public and private swimming pool facilities, etc. There will undoubtedly also be created new uses for water as technology continues to develop. Hopefully, better processes will be developed for the re-use of water, and the need for good quality water for dilution of wastes discharged into our rivers and streams will be lessened.

In spite of this one hopeful note, however, we are faced with a problem that requires a long-range solution. The costs involved now and in the immediate future for land acquisition will be far less than the costs that will have to be payed later as the State becomes more urbanized.

By the time that the 10 million level of population is reached, acquisition of all potential reservoir sites should have been completed in order to insure the availability of water for the citizens and industries of the State.

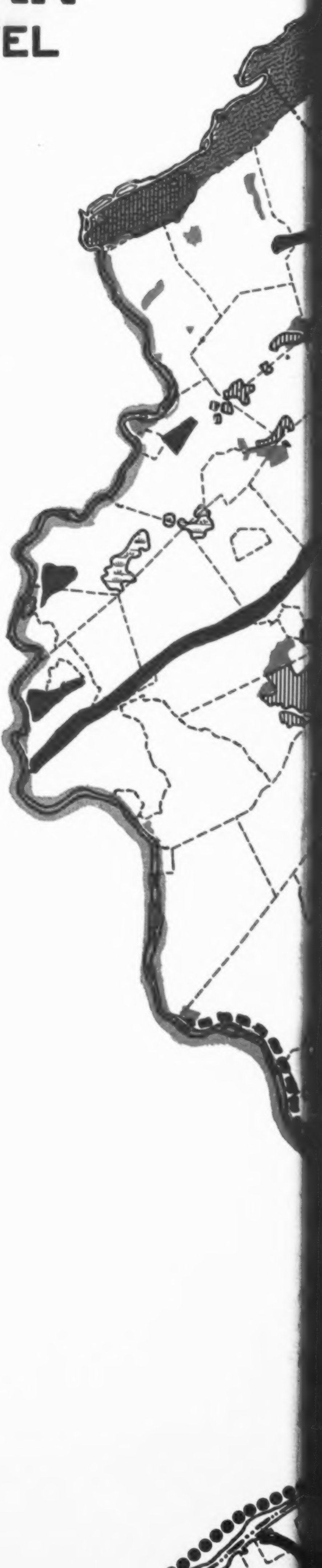
The Plan recognizes this problem and deals with it by including many open space proposals which have excellent potential for reservoir development, including locations outside of the Critical Area.

In keeping with the fundamental open space philosophy of the State, that all sites are for multiple-purpose conservation-recreation uses, no identification has been made as to the primary use for which a specific site may be purchased.

Figure 14

OPEN SPACE POLICY PLAN

FOR THE 10 MILLION POPULATION LEVEL



EXISTING

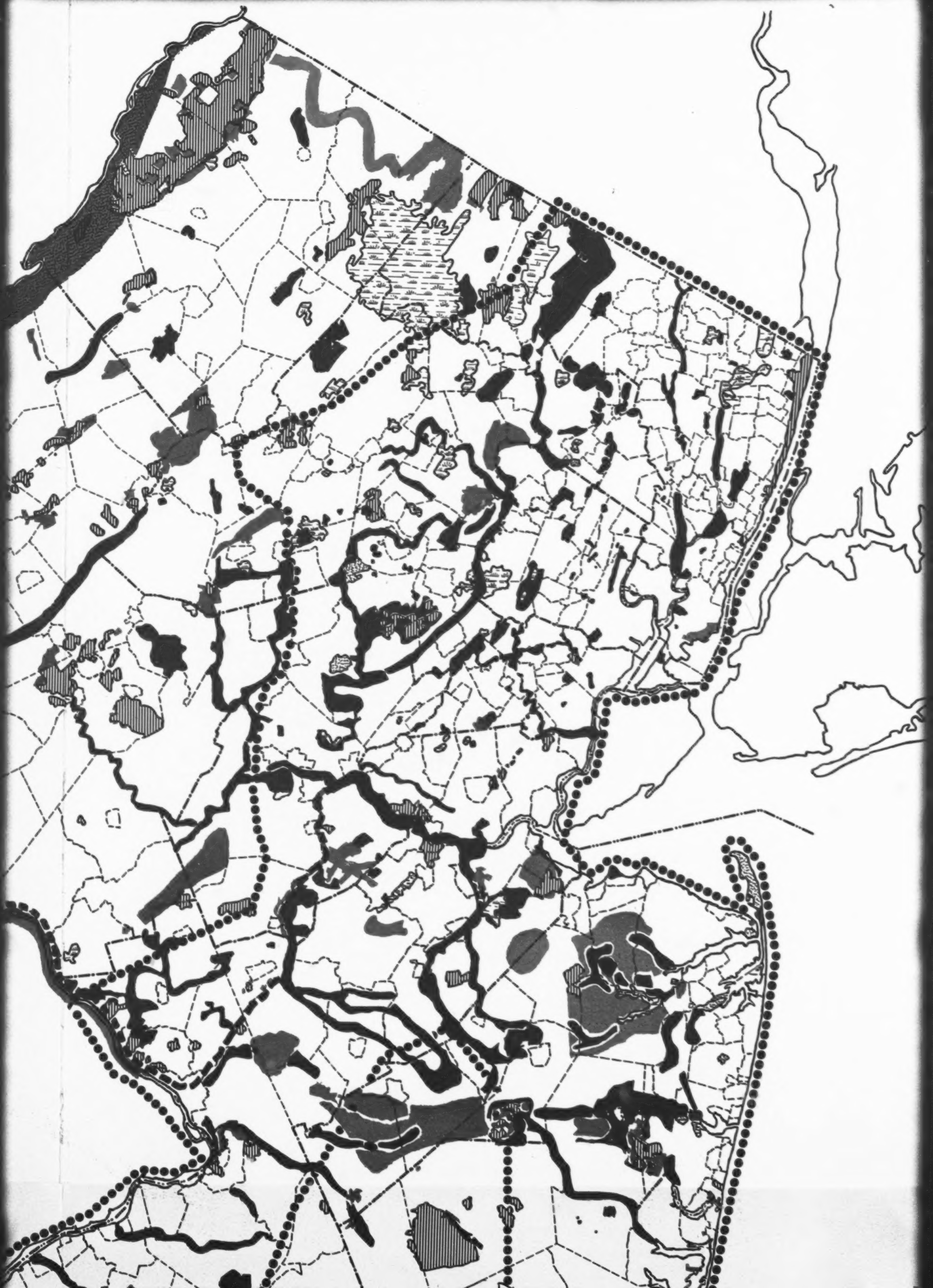
- ▨ **FEDERAL LANDS**
- ▥ **STATE LANDS**
- ■ **COUNTY LANDS**
- ▤ **WATERSHEDS**
- ■■■■ **DELAWARE AND RARITAN CANAL**

CURRENT OPEN SPACE PROJECTS

- ■ **ACQUIRED**
- ■ **ACQUISITION UNDERWAY**
- ▩ **FEDERAL ACQUISITION UNDERWAY**

OPEN SPACE PROPOSALS

- ■ **PUBLIC OWNERSHIP**
- ■ **PUBLIC INTEREST**



▨ **ACQUISITION UNDERWAY**

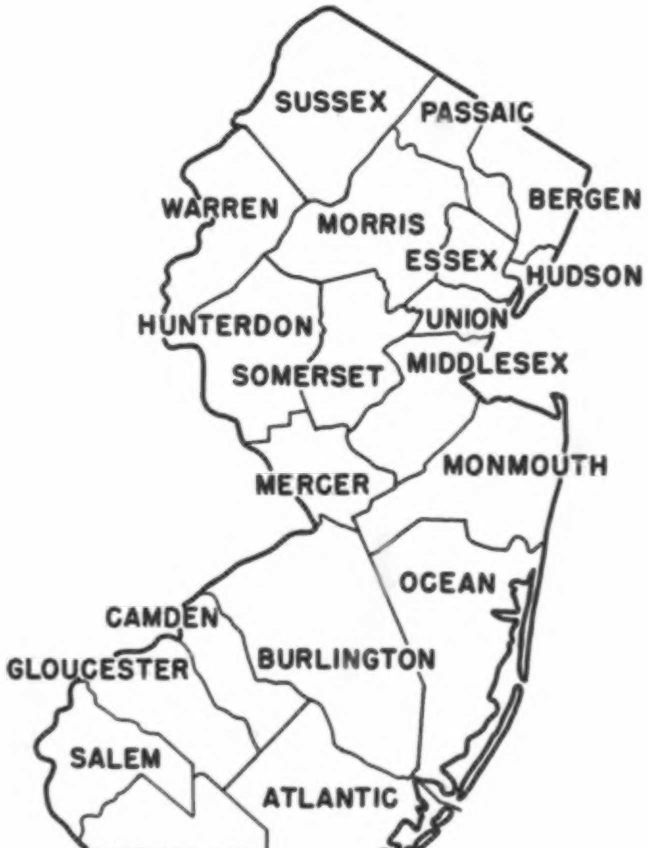
▩ **FEDERAL ACQUISITION UNDERWAY**

OPEN SPACE PROPOSALS

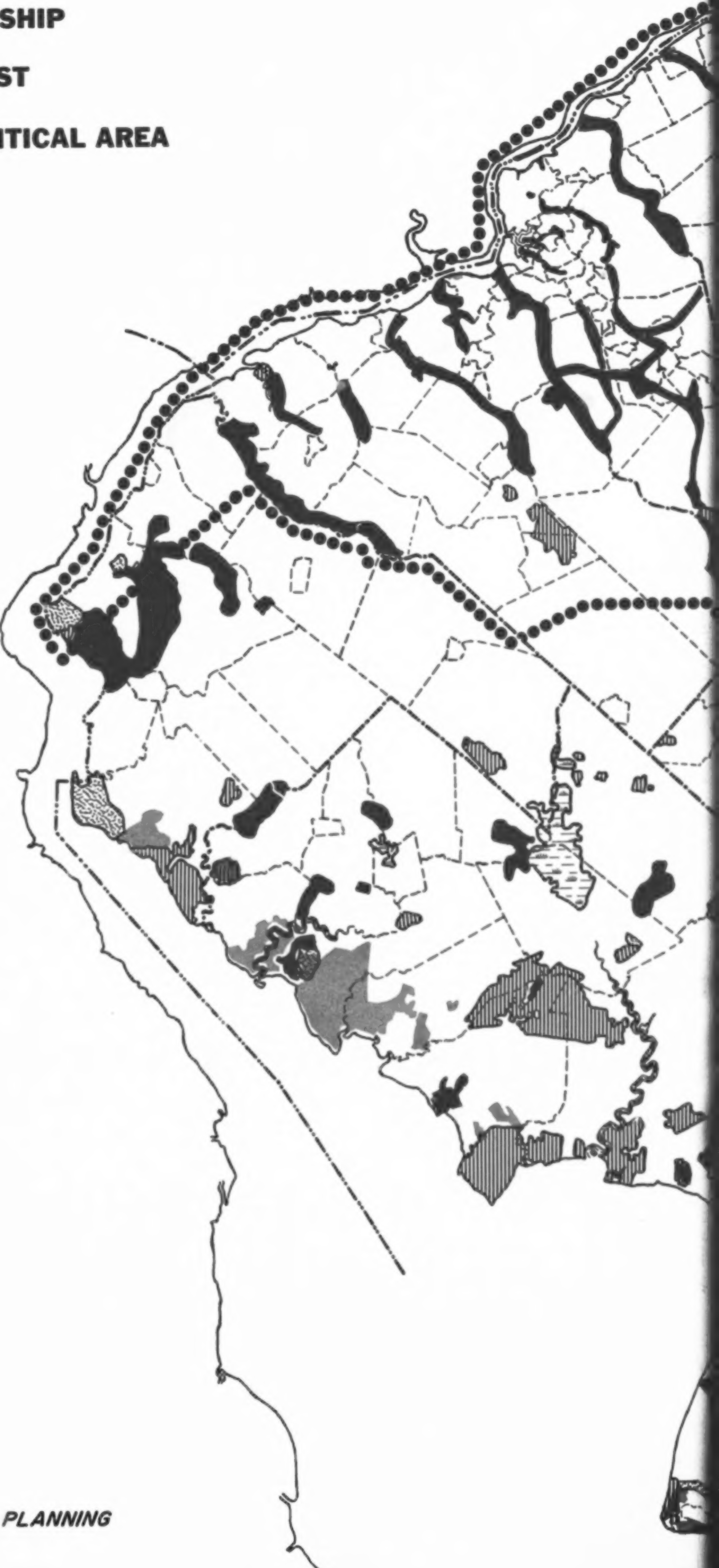
■ **PUBLIC OWNERSHIP**

▨ **PUBLIC INTEREST**

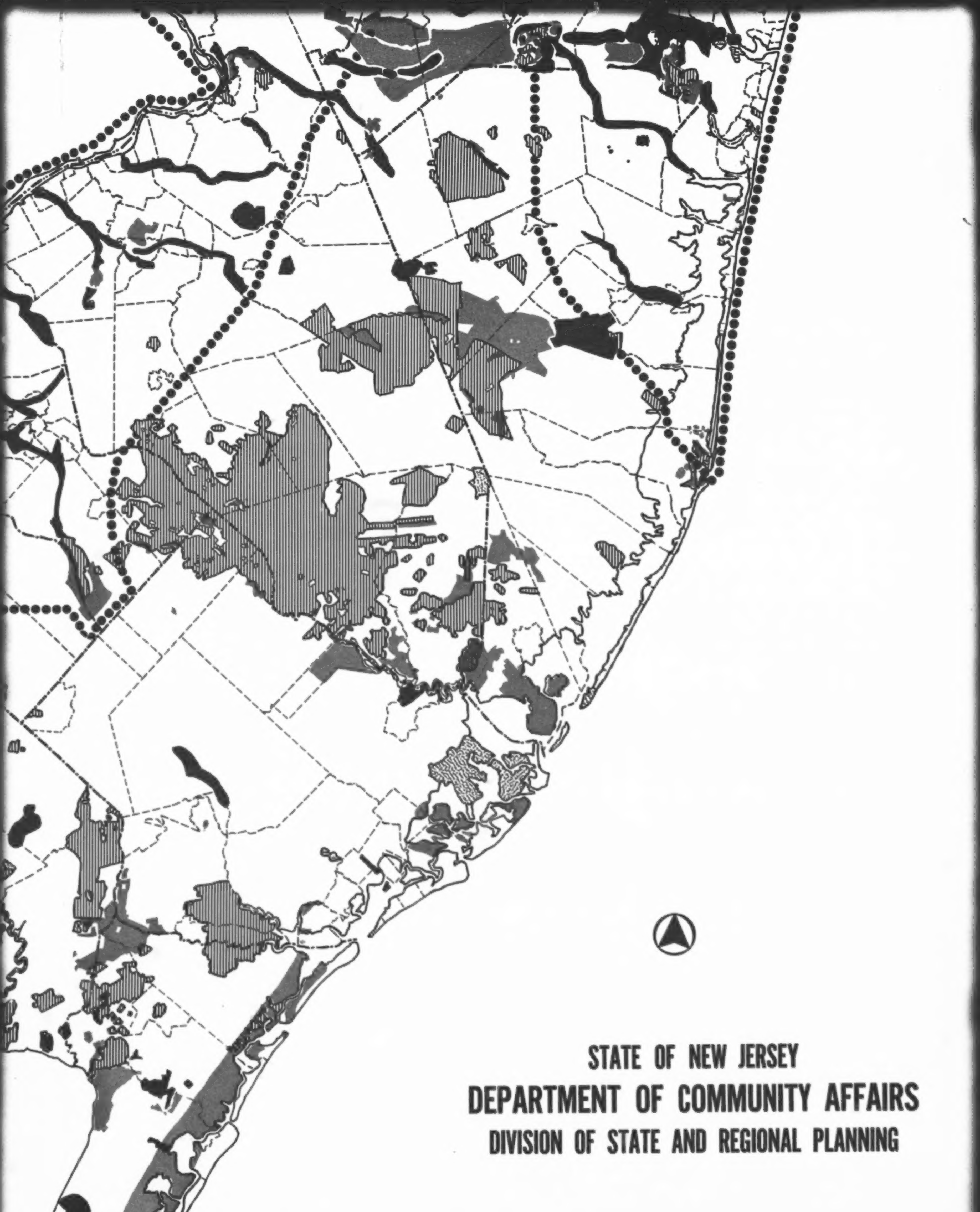
●●●●●● **OUTLINE OF CRITICAL AREA**


SUSSEX
PASSAIC
WARREN
MORRIS
BERGEN
ESSEX
HUDSON
HUNTERDON
UNION
SOMERSET
MIDDLESEX
MERCER
MONMOUTH
OCEAN
CAMDEN
GLOUCESTER
BURLINGTON
SALEM
ATLANTIC
CUMBERLAND
CAPE MAY

COUNTY KEY MAP



SOURCE: COMPILED BY THE
DIV. OF STATE AND REGIONAL PLANNING
JANUARY, 1967


0 1 2 3 4 8 12 16
SCALE IN MILES

STATE OF NEW JERSEY

DEPARTMENT OF COMMUNITY AFFAIRS

DIVISION OF STATE AND REGIONAL PLANNING

EXISTING OPEN SPACE

Existing open space includes all lands under the jurisdiction of the Department of Conservation and Economic Development, all Federal land ownership in open space use excluding military reservations, county open space lands and major reservoir and watershed lands.

CURRENT OPEN SPACE PROJECTS

This has been divided into three categories:

1. *Acquired*, which are projects in which 75 percent or more of the project has been acquired.
2. *Acquisition Underway*, which are projects that have been approved and are in the processes of being negotiated and reviewed and/or are less than 75 percent acquired.
3. *Federal Acquisition Underway*, which refers specifically to the effort taking place now to acquire the land for the Delaware Water Gap National Recreation Area.

The Green Acres program was enacted to provide for the acquisition of all types of open space, recreation and conservation land in all parts of the State. As a general guide, the Land Use Committee of the Department of Conservation and Economic Development has used a map prepared by the Division of State and Regional Planning which divided the State into four areas relating to land values and changes in land values:

1) Lands of high value with slow change in value.
2) Lands of lower value with rapid increases in value.
3) Lands of lower value with moderate increases in value.
4) Lands of lower value with slow changes in value.

As a general guide it was agreed to split the Green Acres money equally over the four areas. All Green Acres proposals have been reviewed by the Bureau of Statewide Planning in relation to all aspects of the development plan currently underway. Obviously, many Green Acres proposals are a recognition of a backlog of proposals which Parks and Recreation, Fish and Game, and Water Policy have had under consideration for many years.

OPEN SPACE PROPOSALS

These areas in the Plan have been found to be available for open space acquisition recognizing areas delineated by State and local agencies. Where county open space plans have been completed (within the Critical Area) all proposals have been included in graphic form or in principle.

Areas of public interest in open space are conservation areas, very low density development, farm districts, estates or other types of open uses. Not all counties have developed a concept of public interest but are encouraged to do so in the future.

Various projects that were considered but not approved by Green Acres appear on this Plan. The desirability of acquiring these areas in the future will be supported by the pressure of development on land and the need to recognize and preserve natural processes.

It is important to understand that this is a graphic presentation with recommended standards for acquisition. Proposals in no way reflect distinct boundaries. This will be the job of detailed planning at all levels of government.

Land characteristics and various densities of development do not foster totally uniform planning of open space; but a desirable relationship between various land uses are reflected in this Plan.

The status of land acquisition is difficult to record specifically in this dynamic program. The first table below indicates the number of approved acres of State projects as of January 1, 1967; and, the second table indicates the number of active acres of county and municipal projects combined as of January 1, 1967. State projects are indicated on The Open Space Policy Plan. Local Green Acres projects are shown in Fig. 15. The Green Acres program has active projects including approximately 215,000 acres at the State level and 17,000 acres at the county and municipal levels as of January 1, 1967.

Table XIV

STATE GREEN ACRES PROJECTS
(as of January 1, 1967)

County	Total Acres Approved	Acres Purchased
Atlantic	8,930	889
Bergen	358	350
Burlington	16,457	3,884
Camden	4,781	177
Cape May	36,528	6,339
Cumberland	17,959	3,428
Essex	3,391	58
Gloucester	4,222	144
Hudson	470	200
Hunterdon	1,559	113
Mercer	1,973	362
Middlesex	6,754	84
Monmouth	11,966	2,530
Morris	7,951	2,003
Ocean	47,927	5,088
Passaic	4,623	3,087
Salem	2,321	98
Somerset	4,347	567
Sussex	28,130	9,812
Union	–	–
Warren	5,293	56
TOTAL	214,922	39,268

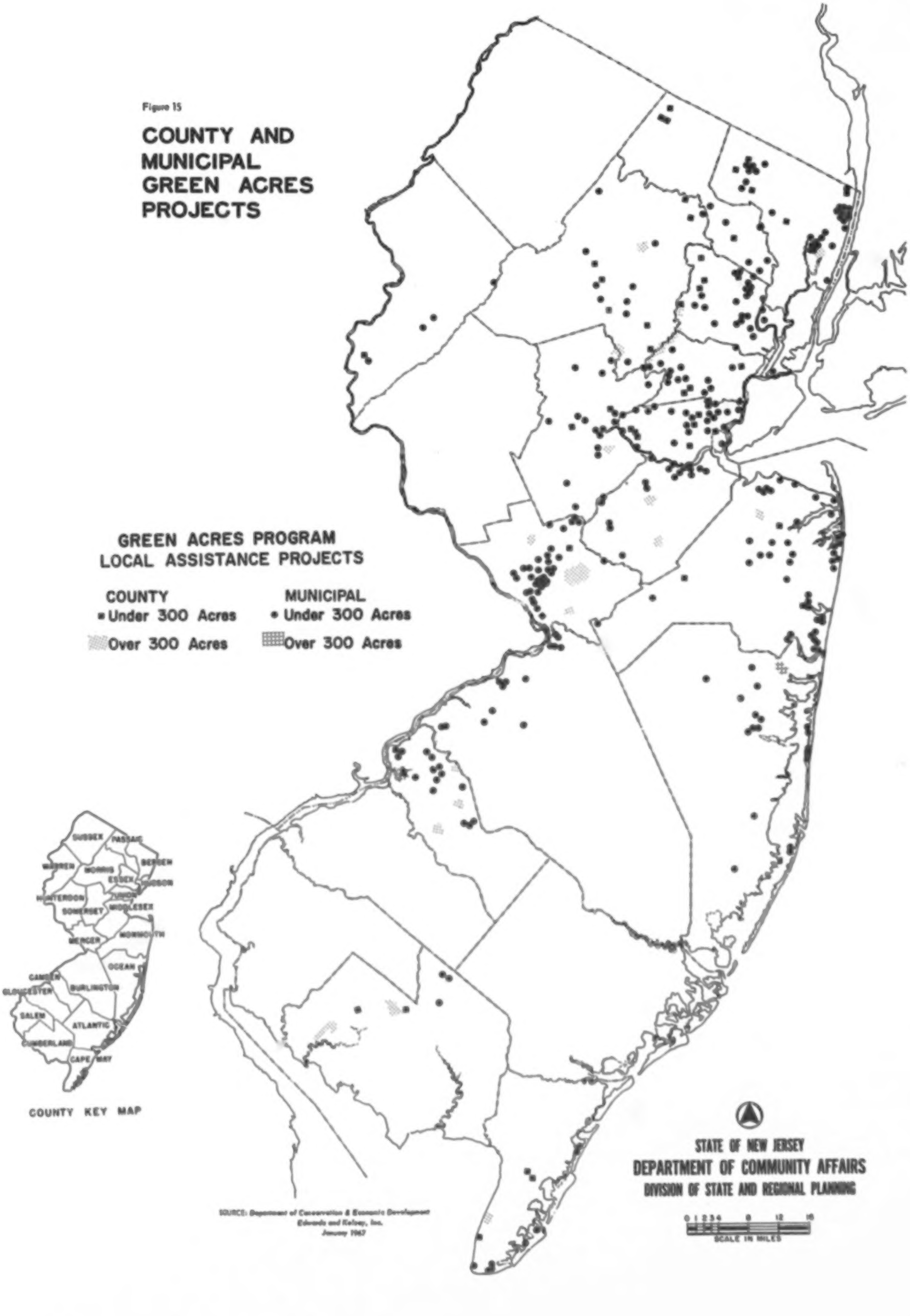
Table XV

COUNTY AND MUNICIPAL GREEN ACRES PROJECTS
(as of January 1, 1967)

County	Active Projects (acres)	Acres Purchased
Atlantic	–	–
Bergen	1,305	1,048
Burlington	40	26
Camden	31	6
Cape May	1,466	8
Cumberland	165	–
Essex	71	8
Gloucester	–	–
Hudson	22	6
Hunterdon	–	–
Mercer	4,783	744
Middlesex	2,588	1,478
Monmouth	2,231	863
Morris	1,701	900
Ocean	608	239
Passaic	318	8
Salem	–	–
Somerset	797	540
Sussex	–	–
Union	570	236
Warren	62	–
TOTAL	16,764	6,116

Figure 15

COUNTY AND MUNICIPAL GREEN ACRES PROJECTS


GREEN ACRES PROGRAM
LOCAL ASSISTANCE PROJECTS
COUNTY
▪ Under 300 Acres
▨ Over 300 Acres
MUNICIPAL
● Under 300 Acres
▦ Over 300 Acres
SUSSEX
PASSAIC
BERGEN
WARREN
MORRIS
ESSEX
HUDSON
HUNTERDON
UNION
SOMERSET
MIDDLESEX
MERCER
MONMOUTH
OCEAN
CAMDEN
GLOUCESTER
BURLINGTON
SALEM
ATLANTIC
CUMBERLAND
CAPE MAY
COUNTY KEY MAP
0 1 2 3 4 8 12 16
SCALE IN MILES

SOURCE: Department of Conservation & Economic Development
Edwards and Kelcey, Inc.
January 1967

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING

THE OPEN SPACE PRINCIPLES AND THE TEN MILLION OPEN SPACE POLICY PLAN

Admittedly the Open Space Policy Plan for the ten million population level does not fulfill all of the principles of open space planning for New Jersey as stated earlier. It is not intended to do so. Neither, to the extent that the principles are met, does it treat them equally. The Plan is the first stage in the fulfillment of those principles which will be satisfied by the Open Space Policy Plan for the twenty million population level which will follow.

The Plan in this report deals with what is a near crisis situation with regard to the setting aside of undeveloped land for open space. The crisis has been brought about by the voracious appetite of urban expansion and the lack of comprehensive planning and policy formulation for recreation land and open space.

The Plan is a first step in creating such a policy. Its recommendations and proposals begin to fulfill the principles and policies stated earlier.

Probably the most spectacular project in the Plan is the proposed Delaware Water Gap National Recreation Area. Tens of thousands of acres of land and water are to be given over to the recreational needs of the people. A wide range of recreational experiences will be offered at a convenient distance to much of the regional population.

The multi-purpose concept is common to all the proposals of the Plan. The project cited above will also serve the purpose of flood control, hydroelectric power, and water supply. Spruce Run and Round Valley as well as the Six Mile Run and Hackettstown reservoirs will also have secondary uses of a recreational value and can be considered multi-purpose facilities.

Endangered reservoir sites and water recreation areas such as Ramapo, Great Swamp, Manasquan, and Great Piece Meadows have been included as essential to protect this most precious of all natural resources.

Various proposals, along numerous stream valleys such as in Camden County and in the Hackensack Meadows for example, are an attempt to help re-establish the balance of natural ecological processes. These areas also serve as breaks in the urban pattern and will help in maintaining water quality and in flood control.

The open space in the Meadows, as well as Liberty State Park create much needed breaks in the urban pattern and will also result in recreation areas easily accessible to densely populated areas.

In Monmouth County a substantial amount of acreage is proposed to protect what is now very low intensively used land, in recognition of intensive study at the county level.

Various meadows, wetlands, stream valleys, and the like have been incorporated into the Plan to help protect some of what is left of New Jersey's natural scenic resources. Liberty State Park and the Delaware-Raritan Canal proposals will enhance the memory of significant historic events.

Although a complete system is not a part of the Plan, the needs for hiking, canoeing, riding, and bicycling will be provided in part by several of the Plan's recommendations, especially those dealing with stream valleys and linear parks.

Thus, the Ten Million Open Space Policy Plan attempts to face the crisis by offering a comprehensive approach to this important but vanishing resource — open land, in the most rapidly urbanizing areas of the State.

This Plan shows approximately 600,000 acres in public open space, or about 12½ percent of the State.

The public open space represents 125,000 acres more than the 480,000 acres of Federal, State, and county level open space that our standards would require for the 10 million population level. It is felt that this provides a reasonable excess considering that an open space program must be a jump ahead of development pressures if it is to have any chance of success.

CHAPTER VIII

AN OPEN SPACE POLICY PLAN FOR THE TWENTY MILLION POPULATION LEVEL

3

The report, thus far, is primarily concerned with open space in the Critical Area in terms of present and impending development pressures. However, other areas may be critical from points of view of other interests such as the defineable limits of the State's existing and future urban areas. The guiding of future urban growth using open space will lend form to development as well as providing multiple- purpose open areas in close proximity to our future urban concentrations. A statewide policy on stream-valley preservation is needed and will be followed through via the twenty million plan.

Planning, being dynamic, will adjust to shifting needs and policies within the State as we go from a population of 10 million to 20 million people. New concepts and principles, as yet undefinable, will no doublt be created and synthesized into the twenty million plan.

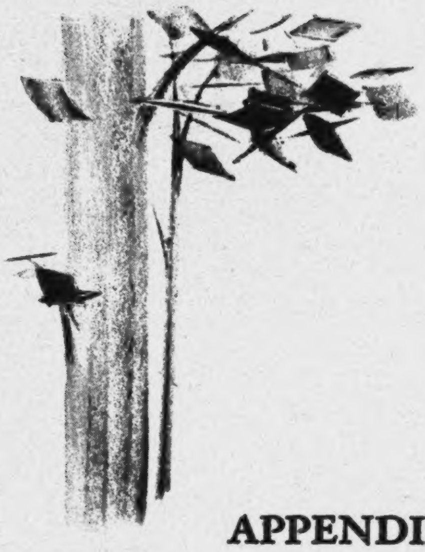
Furthermore, as a general basis for an open space plan for 20 million people it would be desirable to have further policy on future land use patterns for the State. The State Development Plan, currently being formed, will suggest such a pattern. Whether or not the Development Plan will be accepted in whole or in part we don't know at this time.

We do not know to what extent an open space program can really promote land use objectives. If enough people want it to be used for such a purpose it can be done. Meanwhile, a plan is presented (see Fig. 5) indicating all open space which has been identified by various agencies as having a recreation-conservation potential. For the time being, we will call this the plan for the 20 million population level, recognizing that all acquisitions within this area will aid in meeting the needs of 20 million people.

It is anticipated that there can be very few "wrong" purchases no matter what kind of a land use and open space pattern is accepted as desirable for the future.

The plan has not been broken down by levels of responsibility. Criteria and standards suggested in earlier chapters of this report and in later versions of the open space policy plan will be applied in order to form a more meaningful and useable quantitative analysis for the twenty million open space plan.

However, consistency with the principles outlined above and continuation of open space acquisition within present and future urban areas are at least two areas of future open space planning and implementation to be carried on at all governmental levels.



APPENDIX

Within the appendix is a general inventory of facilities and features which are a necessary part of open space and recreation planning if a truly comprehensive approach is to exist.

While some of the items may have more direct implications for open space planning than others, they all have their relative importance in being considered as a part of the open space planning process.

The material presented below is included, not for the purpose of detailing recommendations, but to illustrate the scope with which open space planning must be concerned.

PUBLICLY AND PRIVATELY DEVELOPED RECREATION AREAS

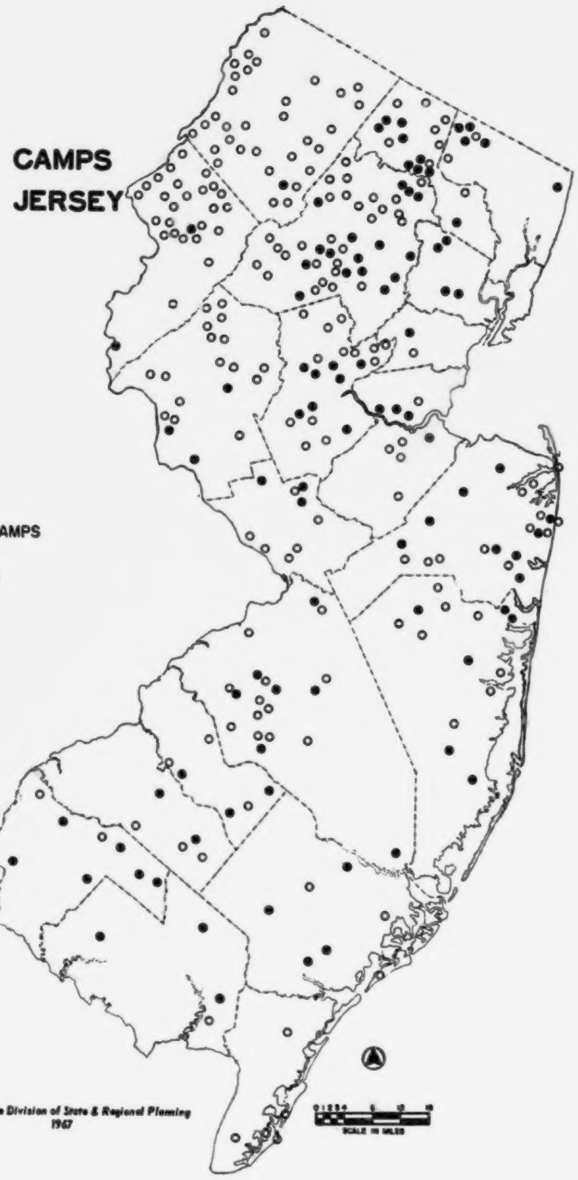
CAMP FACILITIES. Camping facilities in the State can be divided into two broad categories: organized summer camps and transient camp grounds. The first group includes such facilities as organization-sponsored camps and commercial camps for children. These facilities are generally outside the scope of governmental involvement and are the subject of a special open space monograph entitled *Summer Camps in New Jersey.*

Camp grounds (the second category) are designed to accommodate the weekend camper. With the rising popularity of camping, however, these facilities are being heavily used for weekend camping and even longer durations. Camping areas have been developed in fifteen State parks and forests and provide over 1500 camp sites. Forty private facilities provide about 3,500 camp sites in the State.

Camps actually provide an open space as well as a recreational function, and as such, a study of them is important in developing a comprehensive plan for the future use of the State's land resources. The significant influence of camps on the land use pattern as open space in a natural setting and their obvious need in the recreation picture indicates the desirability of regulations or procedures which would protect camping facilities and camping opportunities from encroachment.

Figure 16

SUMMER CAMPS IN NEW JERSEY



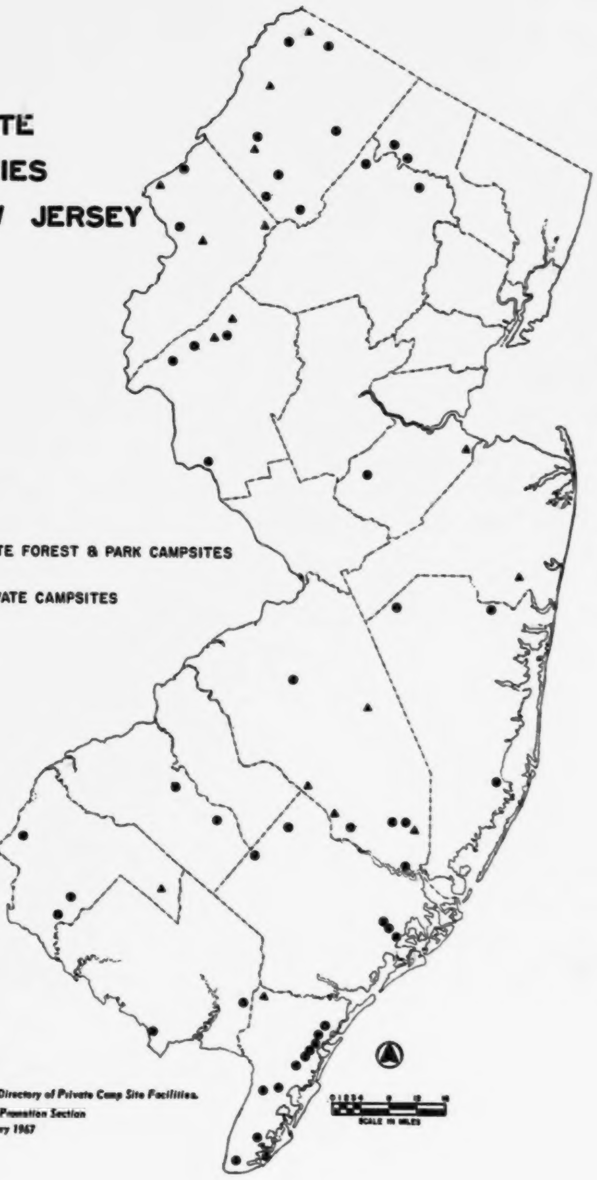
○ RESIDENT CAMPS

● DAY CAMPS

SOURCE: *Compiled by the Division of State & Regional Planning 1967*

Figure 17

CAMPSITE FACILITIES IN NEW JERSEY



▲ STATE FOREST & PARK CAMPSITES

● PRIVATE CAMPSITES

SOURCE: 1966 *Directory of Private Camp Site Facilities.*
State Promotion Section
January 1967

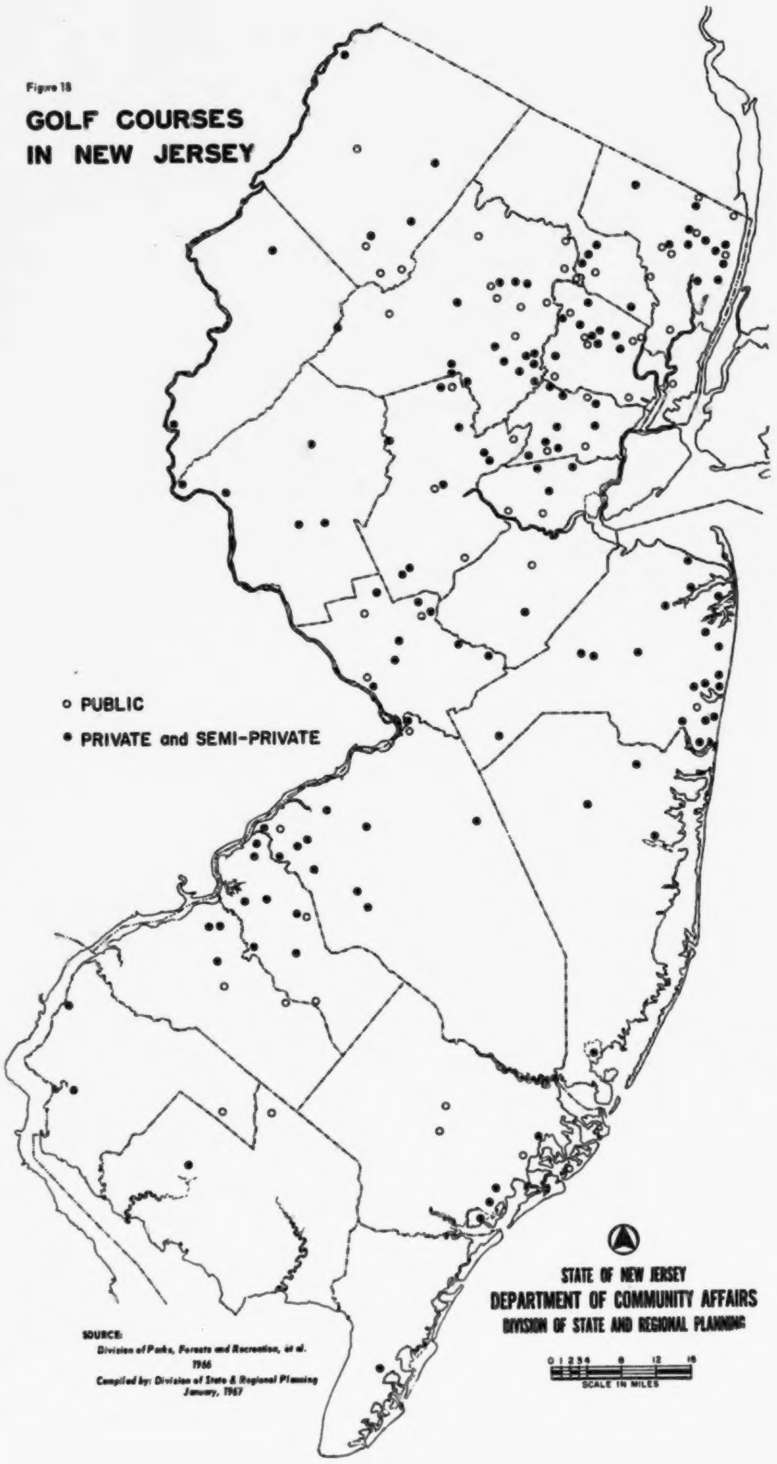


Figure 18

GOLF COURSES IN NEW JERSEY

○ PUBLIC

● PRIVATE and SEMI-PRIVATE

SOURCE:
Division of Parks, Forests and Recreation, et al.
1966
Compiled by: Division of State & Regional Planning
January, 1967

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING

GOLF COURSES. The growing popularity of golf as a recreational activity has placed great pressures on the existing golf facilities in New Jersey. There are about 200 golf courses currently in operation (1966) in the State, only 67 of which are open to the general public. However, this substantial increase as compared with the 1964 figures of 148 golf courses out of which 36 were open to the public, does not occur in the core area where the population concentration is highest and where such recreational open space would be extremely beneficial.

An important finding contained in the open space monograph, *Golf Courses in New Jersey,* shows three basic kinds of courses and that each has a different record for surviving the encroachment of urbanism. Public owned golf courses are relatively immune to being displaced by more intensive urban uses, except perhaps for highway rights-of-way. The country club type of golf course, where access to the facilities is open only to members, has almost a perfect record of survival. It is the privately owned and operated courses open to the public which are vulnerable to development pressure. These facilities are usually operated for profit and the greatest profit often becomes the sale of the land for development purposes. Because golf courses serve as recreation facilities, and also become major natural breaks in the pattern of urban development, their location and vulnerability must be carefully analyzed. In many instances, those courses not already in the public category or not in club ownership and being threatened by encroachment can be considered likely candidates for inclusion into future open space schemes.

Means must now be sought to preserve the existing courses and to establish new courses in locations that will best serve the community and region, as well as contribute to a desired pattern of development for the future.

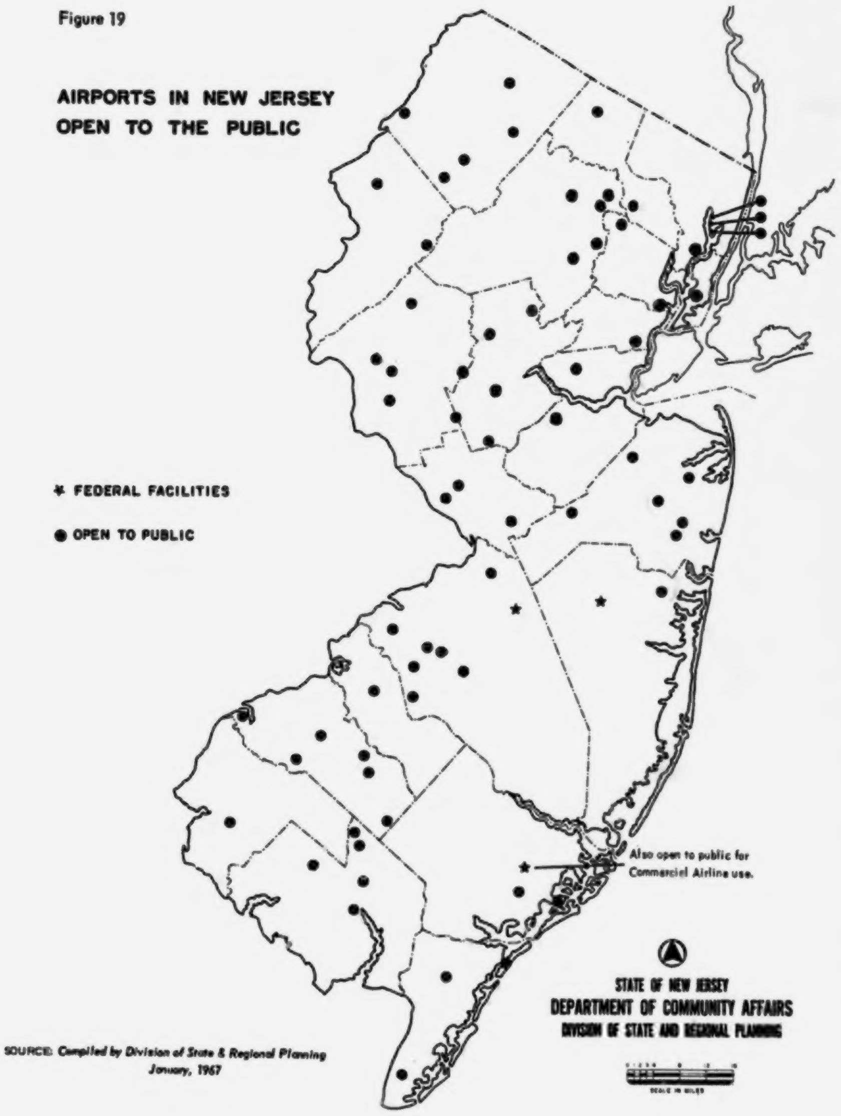
AIRPORTS. Like golf courses and camps, airports have also suffered heavily from urban encroachments. However, as of February, 1966 there were over two hundred installations (including airports, landing fields, private landing strips, and heliports). Of this number, 72 airports are available for general public use. In addition to Newark Airport, three other facilities are utilized by scheduled and commercial aviation—Mercer County, Atlantic City, and Cape May County, all of which are publicly owned.

By their very nature, air facilities are low intensity land uses. Therefore, aside from their value as an integral part of the State's economy and as a focal point between land and air transportation, air facilities may serve as desirable open breaks in the intensely developed urban patterns.

Noise buffers used to protect the area surrounding the facility from the nuisance created by the airplanes overhead have an open space potential which should be recognized and utilized. Various forms of recreation could be developed on this land, particularly active recreation, since passive recreation might be less desirable because of the noise.

Airports, like other low intensity land uses, are suffering from the dynamics of urban growth. Such open and relatively undeveloped areas tend to attract the more intensive forms of land use. Even if an airport is not completely eliminated, its functions may be altered to such a degree that it no longer serves as an effective break in the urban pattern of development. It may eventually become a mass of unattractive buildings and paved runways, without any of the aesthetics that are customarily associated with open areas. This does not necessarily have to be the case. Air facilities and surrounding development can be developed with aesthetic principles in mind. Effective layout, construction and design controls, and profuse landscaping can help achieve this. These considerations, as pointed out in the open space monograph *Air Facilities and the Land Use Pattern in New Jersey* are important because airports are generally located in urban areas where the demand for their use is greatest. It is the urban areas that are most desperately in need of low intensity open land uses which also serve as desirable breaks in the dense urban pattern. In many instances, the continued existence of needed airport facilities would be substantially assisted were their location to be planned in conjunction with open space and conservation needs.

Figure 19



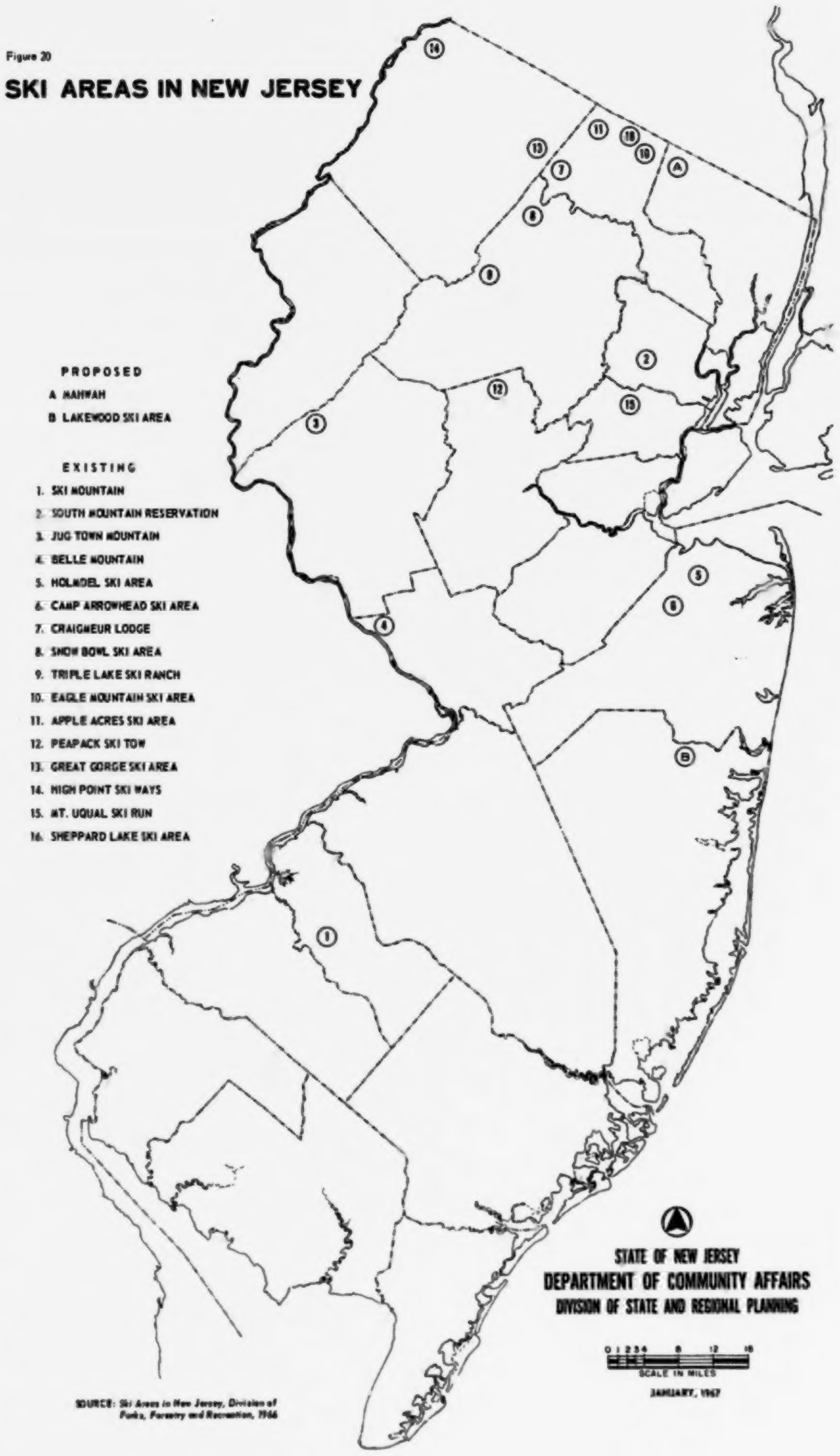
AIRPORTS IN NEW JERSEY OPEN TO THE PUBLIC

* FEDERAL FACILITIES
● OPEN TO PUBLIC
Also open to public for Commercial Airline use.
STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING
SCALE IN MILES

SOURCE: Compiled by Division of State & Regional Planning January, 1967

Figure 20

SKI AREAS IN NEW JERSEY


PROPOSED
A MAHWAH
B LAKEWOOD SKI AREA
EXISTING
1. SKI MOUNTAIN
2. SOUTH MOUNTAIN RESERVATION
3. JUG TOWN MOUNTAIN
4. BELLE MOUNTAIN
5. HOLMDEL SKI AREA
6. CAMP ARROWHEAD SKI AREA
7. CRAIGMEUR LODGE
8. SNOW BOWL SKI AREA
9. TRIPLE LAKE SKI RANCH
10. EAGLE MOUNTAIN SKI AREA
11. APPLE ACRES SKI AREA
12. PEAPACK SKI TOW
13. GREAT GORGE SKI AREA
14. HIGH POINT SKI WAYS
15. MT. UQUAL SKI RUN
16. SHEPPARD LAKE SKI AREA
STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING
0 1 2 3 4 8 12 16
SCALE IN MILES
JANUARY, 1967

SOURCE: *Ski Areas in New Jersey*, Division of Parks, Forestry and Recreation, 1966

SKI SLOPES. Sixteen ski slopes have been established in New Jersey to serve the increasing interest in this form of recreation. These facilities are under the jurisdiction of county governments or are privately owned and operated.

According to the publication *Parks and Recreational Land Use in New Jersey*, the facilities for skiing are located principally in the less densely populated sections of the northern half of the State where conditions of terrain and weather factors facilitate the development of ski slopes. However, modern technology has made it possible to supplement nature, and in many parts of the State skiing facilities can be developed despite the lack of natural slope and snowfall. In such areas man-made snow is blown on man-made slopes, a testimony to the growing popularity of the sport of skiing. Although New Jersey is fortunate to be located within a few hours of out-of-state-skiing areas, it is likely that an increased demand will emerge for ski slopes within the State. Private and public interests should work together to meet this growing demand.

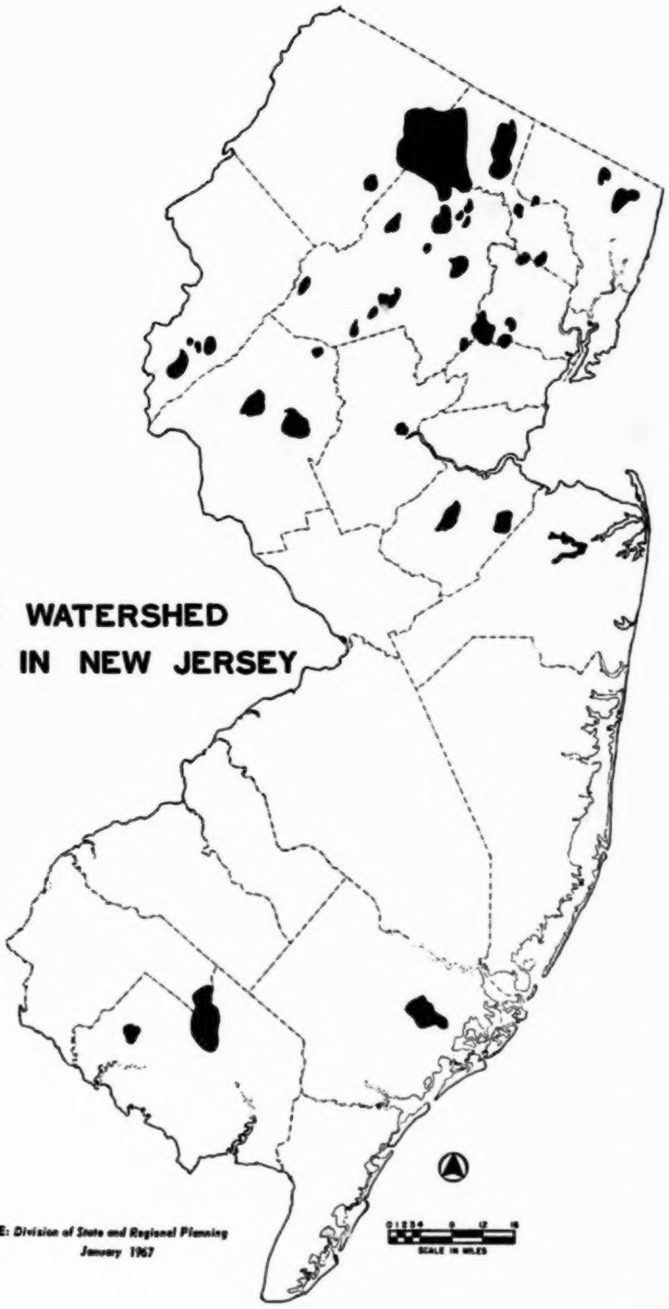
WATER ORIENTED RECREATION AND OPEN SPACE

RESERVOIRS AND WATERSHEDS. Existing and proposed reservoir sites have double value in an open space system. With appropriate design measures, reservoirs and the surrounding lands can also serve as recreation facilities. An excellent example of such a multi-purpose use is the Spruce Run — Round Valley reservoir system. Besides the primary purpose of water supply, extensive recreational use will be permitted including fishing, boating, swimming, camping, hunting and other outdoor recreational activities.

The publication entitled *New Jersey's Water Resources* reviews the problems relating to the limited number of potential reservoirs and the certainty that the purchase costs of these reservoir sites can be expected to rise rapidly as the urbanization of the State continues. Because of this increasing threat of encroaching unbanization, it seems advisable that plans should be made for selecting and acquiring the sites immediately.

The location and extent of existing public and privately owned watershed areas was also plotted as an open space consideration. These facilities by their very nature are open spaces reserved for the collection of run-off water. Watershed lands, like reservoirs, have many recreational functions. Greater recreational use of these areas will probably become necessary as recreational demands increase in the future. Multi-purpose use of such large areas can be accommodated by careful design which gives full recognition to the primary purpose of the watershed area.

Figure 21



MAJOR WATERSHED LANDS IN NEW JERSEY

SOURCE: *Division of State and Regional Planning*
January 1967

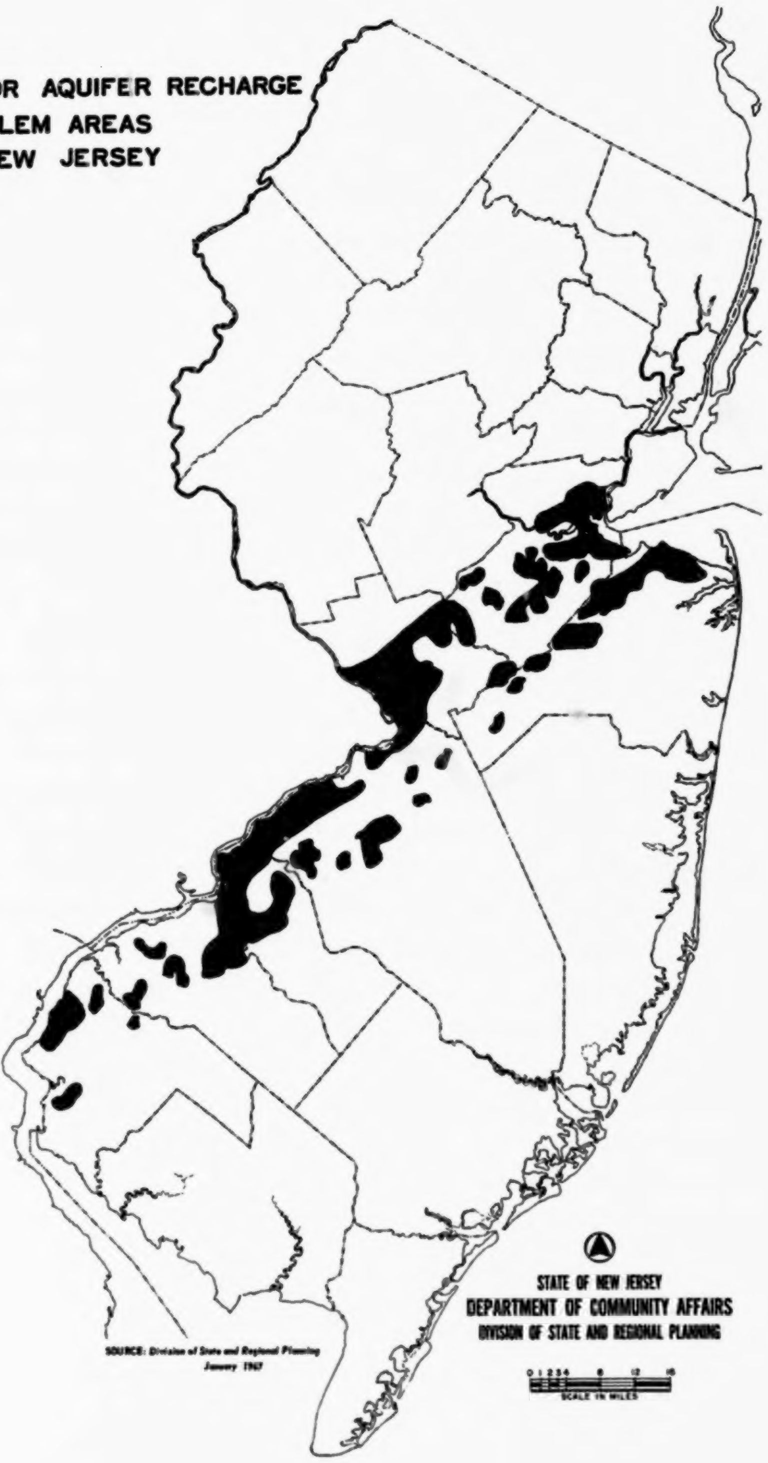


Figure 22

MAJOR AQUIFER RECHARGE PROBLEM AREAS IN NEW JERSEY

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING

SOURCE: Division of State and Regional Planning
January 1967

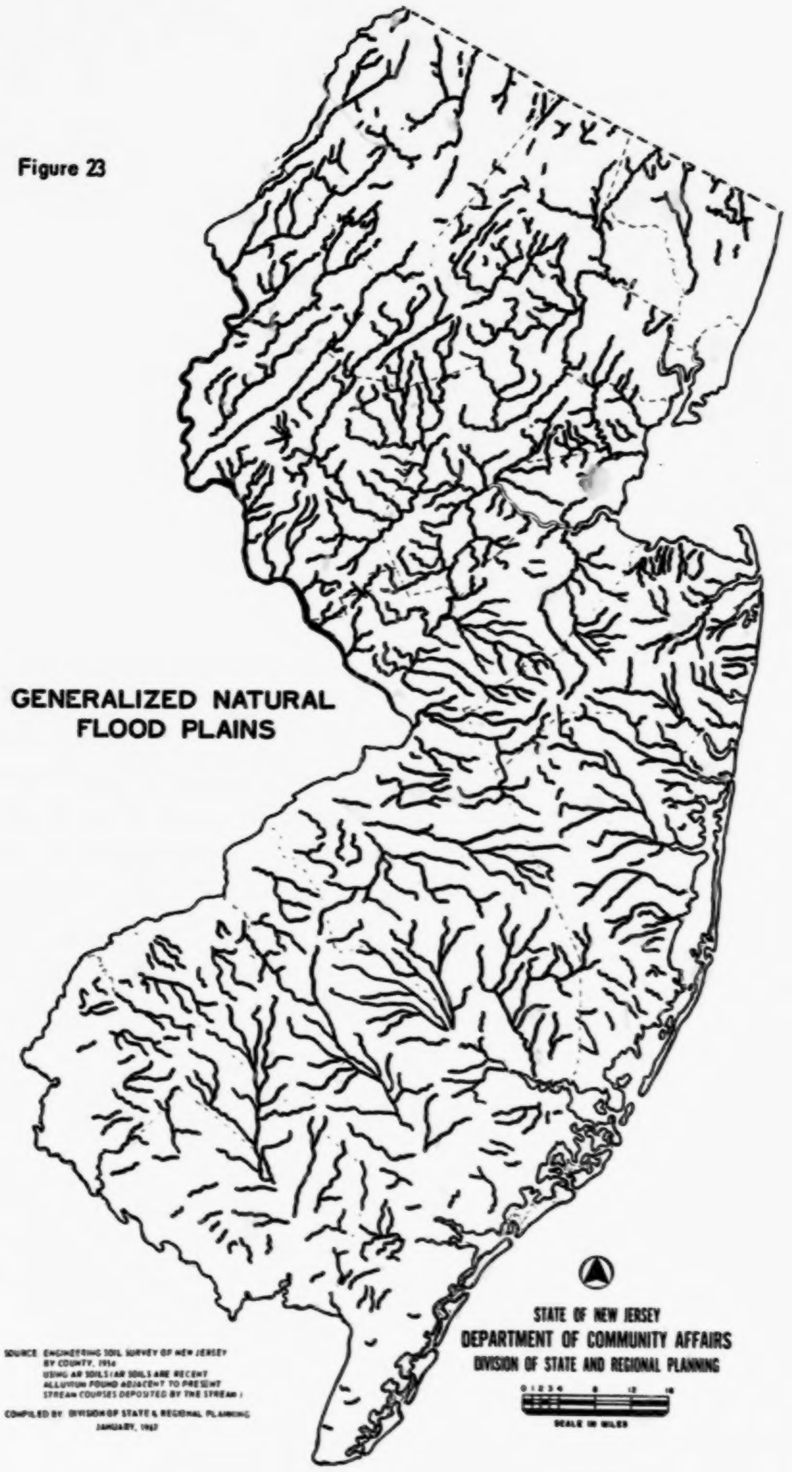
AQUIFERS. To assure the continuation of a supply of ground water, it is necessary to insure the recharge of the aquifer from the surface. The catchment area of the aquifer should remain in a natural undisturbed state to minimize pollution and maximize infiltration to be most useful for underground supplies. Typical development in the form of streets, buildings, and parking lots increase runoff and decrease infiltration up to 30 percent.

Because of the extensive areas involved, it is unlikely that any complete protection could be possible for aquifer recharge areas. However, with coordination of open space planning, much can be achieved by forestalling the reduction of recharge capabilities. For example, one suggestion mentioned in the *New Jersey's Water Resources* publication is that the recharge of an aquifer is most efficient where stream courses or lakes traverse its catchment area. Creating fresh water lakes on streams flowing into the lower Delaware by construction of low tidal dams has been recommended as a means of insuring effective recharge with fresh water and to prevent salt water intrusion into the aquifers.

FLOOD PLAINS. Along the banks of many rivers and streams are areas that are subject to periodic flooding. These flood plains serve the purpose of carrying and temporarily storing flood flows. Many of these flood plains have long since been filled-in and developed for commercial, industrial and residential uses. This development not only results in loss of important flood plain storage, but also produces greatly increased runoff and velocity resulting ultimately in more frequent and intense flood damage and increased personal injuries and fatalities.

The view presented in the publication entitled *Flood Damage Alleviation in New Jersey* demonstrates that the State Encroachment Law was not intended to, and in general does not, prevent flood plain development. Local efforts to date have been almost exclusively concerned with the construction of protective works, while it is hoped that Federal aid will make possible the construction of protective works to reduce flood damage in such areas as the Passaic and Delaware River Basins. However, Federal programs are not designed to take care of the many serious flood problems existing on the numerous small streams which drain the intensely urbanized areas of New Jersey. In such cases, it is desirable that each level of government exercise appropriate controls over stream courses and drainage rights-of-way. Natural flood plain areas can be ploted utilizing maps of the *Engineering Soil Survey of New Jersey.* Many such areas may be potential recreation sites and general purposes of open space preservation are also served.

Figure 23



GENERALIZED NATURAL FLOOD PLAINS

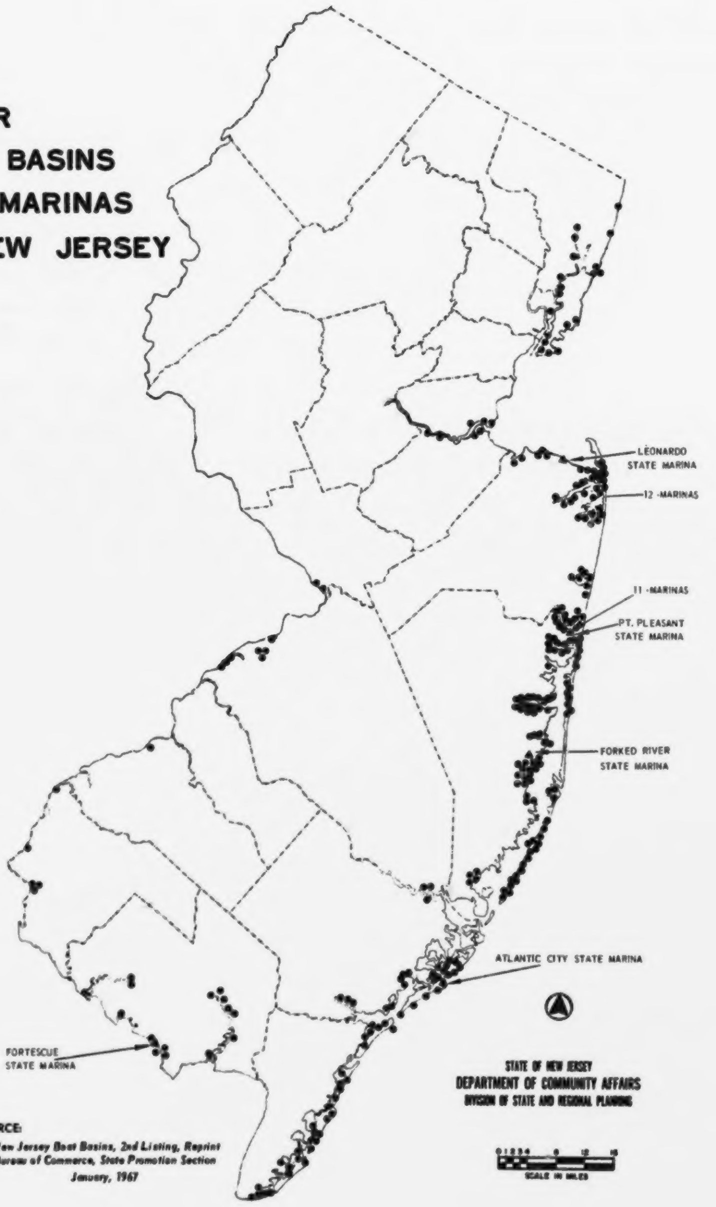
SOURCE: ENGINEERING SOIL SURVEY OF NEW JERSEY BY COUNTY, 1956
USING AR SOILS (AR SOILS ARE RECENT ALLUVIUM FOUND ADJACENT TO PRESENT STREAM COURSES DEPOSITED BY THE STREAM)

COMPILED BY DIVISION OF STATE & REGIONAL PLANNING
JANUARY, 1967

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING

Figure 24

MAJOR BOAT BASINS AND MARINAS IN NEW JERSEY



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DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING

SOURCE:
New Jersey Boat Basins, 2nd Listing, Reprint
Bureau of Commerce, State Promotion Section
January, 1967

MARINAS. New Jersey residents currently have approximately 200,000 boats registered with the Bureau of Navigation. This popularity of boating is reflected by the great number of marina facilities which are available along New Jersey's coast.

The State of New Jersey operates marinas at Atlantic City, Forked River, Leonardo, Fortesque and Point Pleasant. A total of 700 boats can be accommodated at these State marina facilities. In addition, some New Jersey municipalities also maintain their own marinas.

Privately owned boat basins line the State's coast and rivers. They number approximately 520 and can accommodate some 25,000 craft. A publication of the Department of Conservation and Economic Development entitled *New Jersey Boat Basins* contains more detailed information about these facilities and the special services they provide.

Another publication *Waterfront Utilization in Northeast New Jersey* points out that a good many of the marina and boat club facilities in the northeast area are found in relatively unattractive surroundings and in various states of disrepair. Many of these facilities are not only unattractive, but their dilapidated and overcrowded conditions constitute a hazardous situation both for the pleasure boaters and for shipping in general. The overcrowded conditions reflect the increasing popularity of pleasure boating. This increased interest in boating, coupled with the inadequacy of existing facilities, would suggest the need for an extensive program of waterfront development for marina facilities.

HUNTING AND FISHING AREAS. New Jersey possesses fishery and wildlife resources in abundance. Among the State's fish and fauna are found all the species common to the uplands, wetlands, and waters of the northeastern United States. Over 300,000 acres or six percent of the State's area has been set aside by both public and private agencies in order to preserve New Jersey's wildlife and their habitat. About 80 percent of this acreage is State owned and includes State Fish and Game Lands, State Forests, and State Parks. The Federal government maintains another five percent of this acreage as wildlife refuges. Commercial shooting preserves and other wildlife oriented lands held by private nature or conservation organizations constitute the remaining fifteen percent. The continuation of these areas as good and productive wildlife habitats will become more difficult because of the encroachment of expanding development.

As the publication entitled *The Nature and Pattern of New Jersey's Marine Life Resources* points out, the problem of water pollution (which has accompanied residential and industrail development) has made itself felt on the fishery resources in New Jersey. The Delaware River shad population has been greatly depleted and the shell-fishing industry on the Raritan Bay has disappeared. Severe restrictions on the taking of shellfish from Barnegat Bay are in force due to the pollution of tributary streams. This problem will increase in its severity with the rising level of population and the expansion of industry. More effective waste treatment procedures and stricter enforcement of pollution control laws must be initiated to meet this growing problem. Investigation into new and stronger controls of water polluters is also needed.

According to the resource monograph *Fishery and Wildlife Resources in New Jersey* increased recreational utilization of the fishery and wildlife resources might be accomplished in two ways. First, there are expanses of woodlands, fields and water which are in private ownership and posted against public trespass. These areas (if open to public access) represent a great source of potential hunting and fishing grounds.

Secondly, public access to many good fishing areas along the Delaware River and Bay is in need of improvement. Good access roads and trails, parking lots and in some cases boat launching facilities would serve to increase the utilization of these good fishery resources.

Finally, the incompatibility between fishery and wildlife resources and urban development in New Jersey will become increasingly acute. The need for action to reconcile these divergent land uses will become more urgent in time as the sportsmen population grows and undeveloped land disappears.

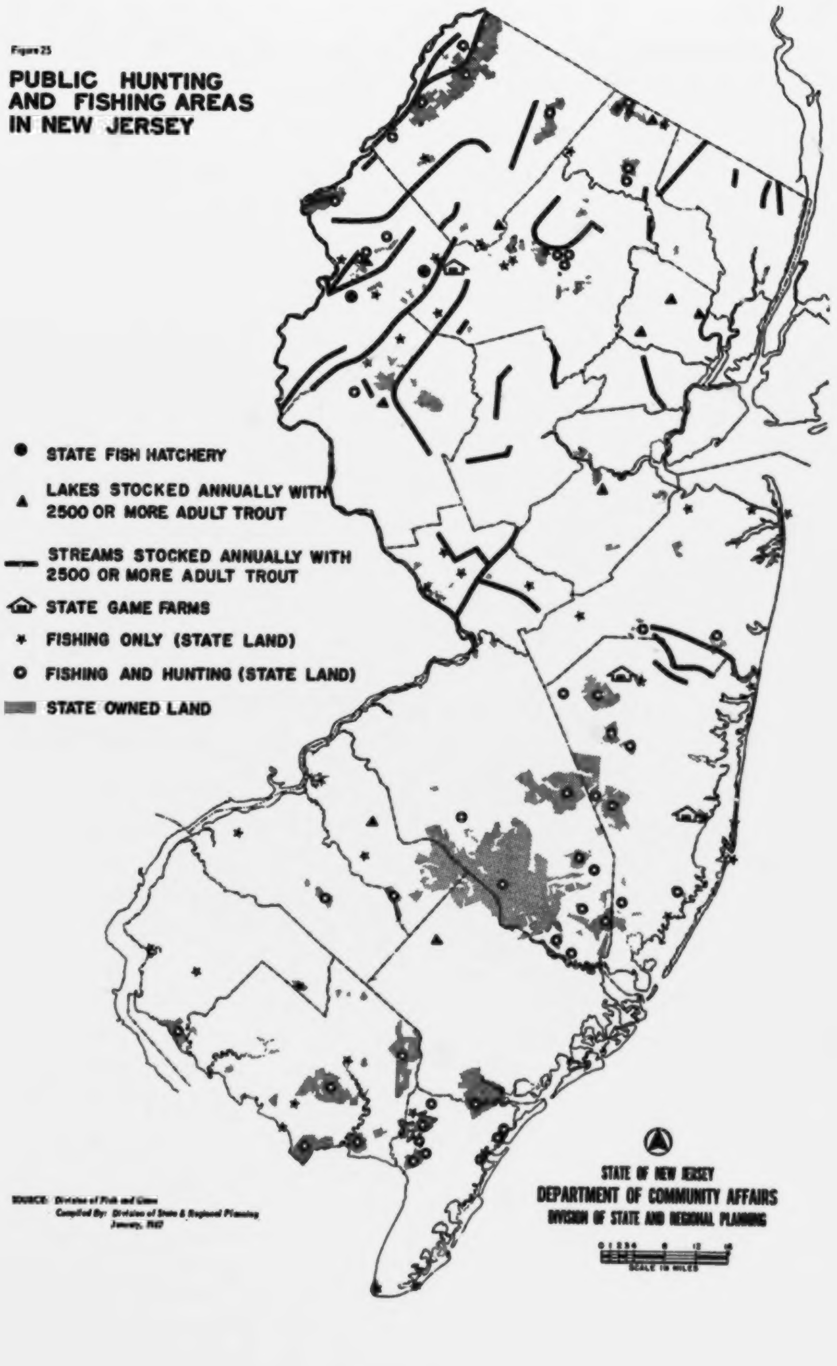


Figure 25
PUBLIC HUNTING AND FISHING AREAS IN NEW JERSEY

● STATE FISH HATCHERY
▲ LAKES STOCKED ANNUALLY WITH 2500 OR MORE ADULT TROUT
— STREAMS STOCKED ANNUALLY WITH 2500 OR MORE ADULT TROUT
STATE GAME FARMS
* FISHING ONLY (STATE LAND)
○ FISHING AND HUNTING (STATE LAND)
▨ STATE OWNED LAND
0 1 2 3 4 8 12 16
SCALE IN MILES

SOURCE: Division of Fish and Game
Compiled By: Division of State & Regional Planning
January, 1967

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING

SCENIC DRIVES, TRAILS AND CANOE RUNS

SCENIC HIGHWAYS. Driving for pleasure is the number one recreation activity for Americans (according to the Outdoor Recreation Resources Review Commission) because of the availability of good highways, the incidence of car ownership, and because driving can be participated in by the entire family.

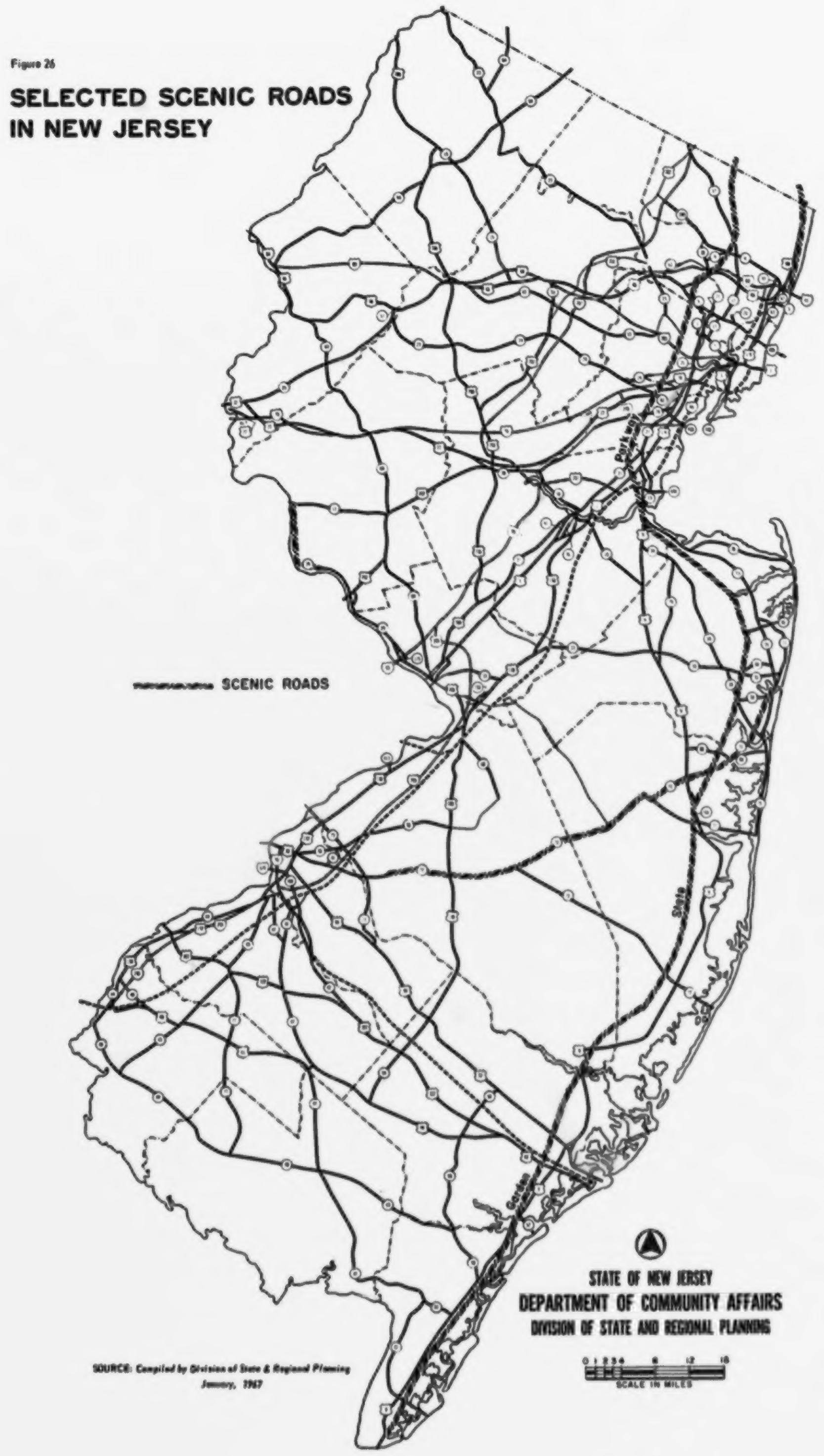


Figure 26

SELECTED SCENIC ROADS IN NEW JERSEY

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING

SOURCE: Compiled by Division of State & Regional Planning
January, 1967

New Jersey has more than half (144 miles) of a total of 280 miles of scenic roads classed as "highly scenic—worth a special sightseeing trip" within 75 miles of the New York City—Philadelphia corridor, according to the Outdoor Recreation Resources Review Commission *Report 21*. However, they indicate that 117 miles of this total is abutted by privately owned land and may be in danger of future non-compatible roadside development.

New Jersey has two major roads which were designed with scenery and beauty as a primary consideration: the Garden State Parkway stretching from the northern boundary of the State to the southernmost tip of Cape May; and the Palisades Interstate Parkway along the west bank of the Hudson River from Fort Lee to the northern boundary of the State. In addition to their design features, both roads pass through some of the finest scenic and recreational areas of the State. However, recent improvements to increase traffic capacity have encroached on or eliminated landscaping features originally incorporated.

Recent work on State Route 29 from Raven Rock to Frenchtown—selective tree thinning, etc.—is noted as a specific action relating to the scenic qualities of the area. Also, State Route 70 (the John D. Rockfeller Memorial Highway built in the 1930's) from Marlton to Brielle has a wide right-of-way (up to 1000 feet), landscaping, etc., but the lack of controlled access has caused the effort to be less than fully effective.

The New Jersey State Highway Department has prepared a report entitled *Scenic Roads and Parkways Study* which is a preliminary study identifying many scenic roads within the State. The study considers an upgrading of existing roads, the adoption of scenic roadway design standards for roads presently under design, and entirely new roads through scenic areas or to provide access to major recreational areas.

The importance of scenic roads as a necessary part of the overall recreation experience cannot be over-emphasized. Well designed roads with frequent well spaced rest stops, picnic areas, and scenic overlooks provide not only enjoyment in the short term use, but also help to create an attitude of truly getting away.

TRAILS AND CANOE RUNS. There are at present many fine hiking trails on both public and private lands. They vary from those that are little more than a well trodden path through the forests to well-marked trails through beautiful wooded and mountainous areas with shelters provided. Several are maintained by members of the New York - New Jersey Trail Conference, Inc. which also provides excellent trail maps.

Current studies now being prepared for the New Jersey Comprehensive Outdoor Recreation Plan indicate that there are about 320 miles of hiking trails and 50 miles of bridle trails, including 264 miles of trails through the vast Wharton Tract, which is substantially undeveloped and wild.

A number of the State's smaller streams are ideal for canoeing and boating, and there is a growing interest in all aspects of this form of recreation. The book *Exploring the Little Rivers of New Jersey* by James and Margaret Cawley gives detailed information on streams ideal for canoeing purposes along with day and overnight camping trips. As part of the inventory process, the streams identified were mapped because of their recreation potential. Making such streams more enjoyable would involve the removal of fallen trees and other obstacles and the provision of suitable launching sites would provide canoeing enthusiasts with many more miles of navigable waterways.

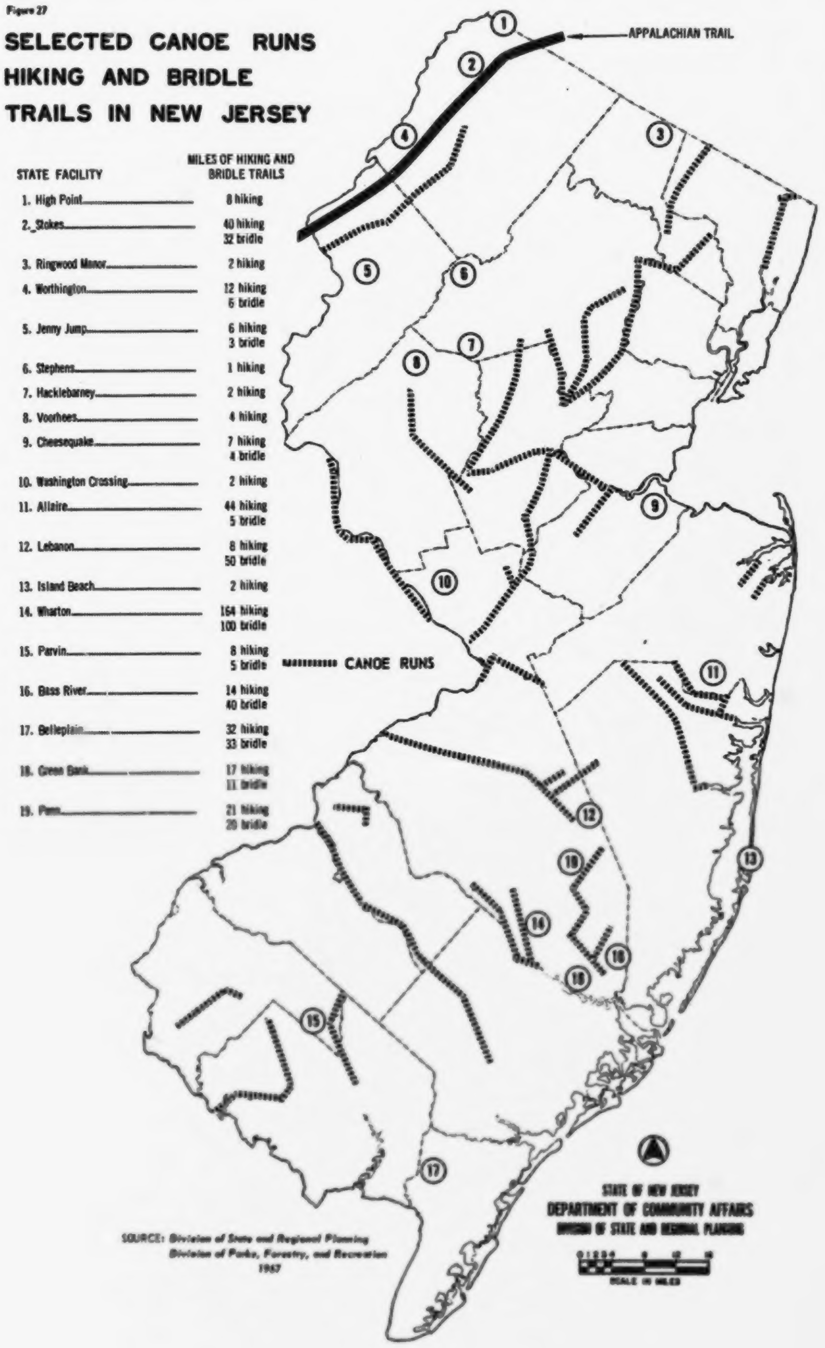


Figure 27

SELECTED CANOE RUNS HIKING AND BRIDLE TRAILS IN NEW JERSEY

STATE FACILITY	MILES OF HIKING AND BRIDLE TRAILS
1. High Point	8 hiking
2. Stokes	40 hiking 32 bridle
3. Ringwood Manor	2 hiking
4. Worthington	12 hiking 6 bridle
5. Jenny Jump	6 hiking 3 bridle
6. Stephens	1 hiking
7. Hacklebarney	2 hiking
8. Voorhees	4 hiking
9. Cheesequake	7 hiking 4 bridle
10. Washington Crossing	2 hiking
11. Allaire	44 hiking 5 bridle
12. Lebanon	8 hiking 50 bridle
13. Island Beach	2 hiking
14. Wharton	164 hiking 100 bridle
15. Parvin	8 hiking 5 bridle
16. Bass River	14 hiking 40 bridle
17. Belleplain	32 hiking 33 bridle
18. Green Bank	17 hiking 11 bridle
19. Penn	21 hiking 20 bridle

SOURCE: *Division of State and Regional Planning*
Division of Parks, Forestry, and Recreation
1967

HISTORIC SITES

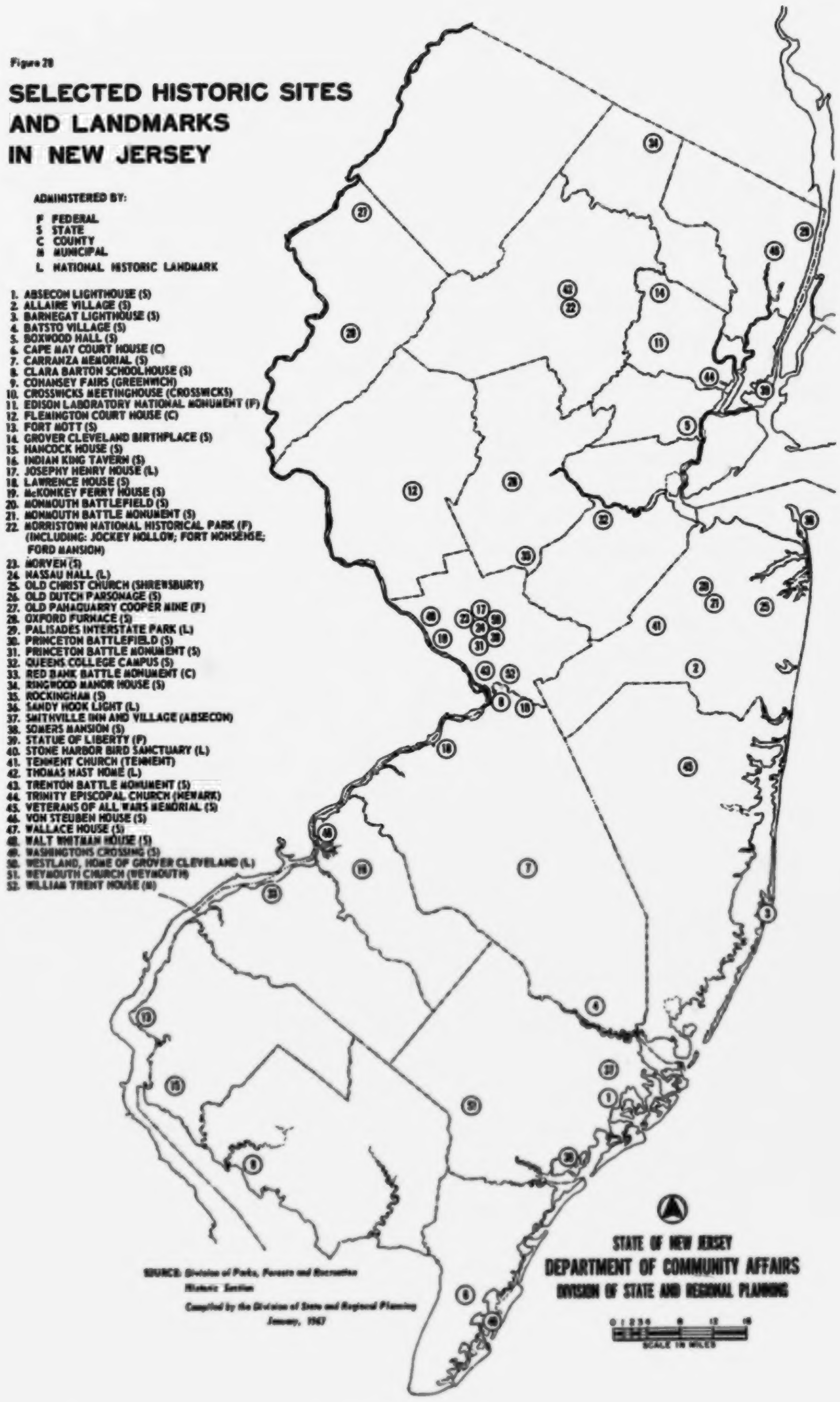


Figure 28

SELECTED HISTORIC SITES AND LANDMARKS IN NEW JERSEY

SOURCE: Division of Parks, Forests and Recreation
Historic Section

Compiled by the Division of State and Regional Planning
January, 1967

ADMINISTERED BY:
F FEDERAL
S STATE
C COUNTY
M MUNICIPAL
L NATIONAL HISTORIC LANDMARK
1. ABSECON LIGHTHOUSE (S)
2. ALLAIRE VILLAGE (S)
3. BARNEGAT LIGHTHOUSE (S)
4. BATSTO VILLAGE (S)
5. BOXWOOD HALL (S)
6. CAPE MAY COURT HOUSE (C)
7. CARRANZA MEMORIAL (S)
8. CLARA BARTON SCHOOLHOUSE (S)
9. COHANSEY FAIRS (GREENWICH)
10. CROSSWICKS MEETINGHOUSE (CROSSWICKS)
11. EDISON LABORATORY NATIONAL MONUMENT (F)
12. FLEMINGTON COURT HOUSE (C)
13. FORT MOTT (S)
14. GROVER CLEVELAND BIRTHPLACE (S)
15. HANCOCK HOUSE (S)
16. INDIAN KING TAVERN (S)
17. JOSEPHY HENRY HOUSE (L)
18. LAWRENCE HOUSE (S)
19. McKONKEY FERRY HOUSE (S)
20. MONMOUTH BATTLEFIELD (S)
21. MONMOUTH BATTLE MONUMENT (S)
22. MORRISTOWN NATIONAL HISTORICAL PARK (F) (INCLUDING: JOCKEY HOLLOW; FORT NONSEIGE; FORD MANSION)
23. MORVEN (S)
24. NASSAU HALL (L)
25. OLD CHRIST CHURCH (SHREWSBURY)
26. OLD DUTCH PARSONAGE (S)
27. OLD PAHAQUARRY COOPER MINE (F)
28. OXFORD FURNACE (S)
29. PALISADES INTERSTATE PARK (L)
30. PRINCETON BATTLEFIELD (S)
31. PRINCETON BATTLE MONUMENT (S)
32. QUEENS COLLEGE CAMPUS (S)
33. RED BANK BATTLE MONUMENT (C)
34. RINGWOOD MANOR HOUSE (S)
35. ROCKINGHAM (S)
36. SANDY HOOK LIGHT (L)
37. SMITHVILLE INN AND VILLAGE (ABSECON)
38. SOMERS MANSION (S)
39. STATUE OF LIBERTY (F)
40. STONE HARBOR BIRD SANCTUARY (L)
41. TENNENT CHURCH (TENNENT)
42. THOMAS NAST HOME (L)
43. TRENTON BATTLE MONUMENT (S)
44. TRINITY EPISCOPAL CHURCH (NEWARK)
45. VETERANS OF ALL WARS MEMORIAL (S)
46. VON STEUBEN HOUSE (S)
47. WALLACE HOUSE (S)
48. WALT WHITMAN HOUSE (S)
49. WASHINGTONS CROSSING (S)
50. WESTLAND, HOME OF GROVER CLEVELAND (L)
51. WEYMOUTH CHURCH (WEYMOUTH)
52. WILLIAM TRENT HOUSE (M)
STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING
0 1 2 3 4 8 12 16
SCALE IN MILES

HISTORIC SITES. New Jersey enjoys a significant place in American history. Many of the State's more impressive historic sites have been preserved and are maintained for their educational as well as their recreational value.

Mr. William G. Miller (an archivist at Rutgers University) has recently compiled a definitive list of 800 historical sites and features from a basic list of more than 1,600 developed by county committees. This final list includes two facilities administered by the National Park Service: the Morristown National Historical Park containing the Ford Mansion and Museum, Fort Nonsense and the Jocky Hollow encampment; and the Edison Laboratory National Historic Site in West Orange.

Several sites of historic interest are under direct control of the State and form an important adjunct to the State's outdoor recreation program with their provision for fishing, hiking, boating or picnicking. The more important of these sites include Washington's Crossing, Fort Mott, Allaire Village, Ringwood Manor and Batsto Village in the Wharton Tract.

Private organizations as well are active in the preservation of New Jersey's historic sites. Of particular significance are the many Revolutionary homes and historically important churches which are being maintained by historical societies.

However, as diligent as the State and historical societies have been in preserving historic sites and features, the rapidity with which our urban areas are expanding presents a threat to much of New Jersey's historic heritage. It is, therefore, in the interest of these agencies to seek certification and protection by the National Park Service of the more significant sites before they are lost forever. This certification may also pave the way for obtaining Federal aid at such time as funds are made available for acquisition and development. The Historic Sites Section of the Department of Conservation and Economic Development has on file over 14,000 historic sites gathered from a myriad of sources.

NATURAL AREAS AND REFUGES

NATURAL AREAS AND WILDLIFE SANCTUARIES. In recent years, the preservation of natural areas has come to the forefront as an important governmental responsibility in the provision of outdoor recreational facilities. Increased governmental protection has stemmed from recognition that suburban growth is rapidly consuming large areas of land and destroying unique natural areas in the process. Natural areas are sites valued for some particularly unique and intrinsic quality over and above their open character. The Natural Areas Section of the New Jersey Division of Parks, Forestry and Recreation has been charged by the Natural Areas Act with the responsibility of acquiring and maintaining suitable natural areas. These sites are used, not only by the naturalist and the conservationist, but also serve as outdoor laboratories for a wide variety of educational activities.

It should be noted that a significant portion of the identified natural areas' sites were already under the protection of the Department of Conservation and Economic Development or in county or local park systems. For the most part these are parts of larger sites. Small independent natural areas are often left unprotected. Further investigation should be made as to the means and methods that are or can be made available to protect them.

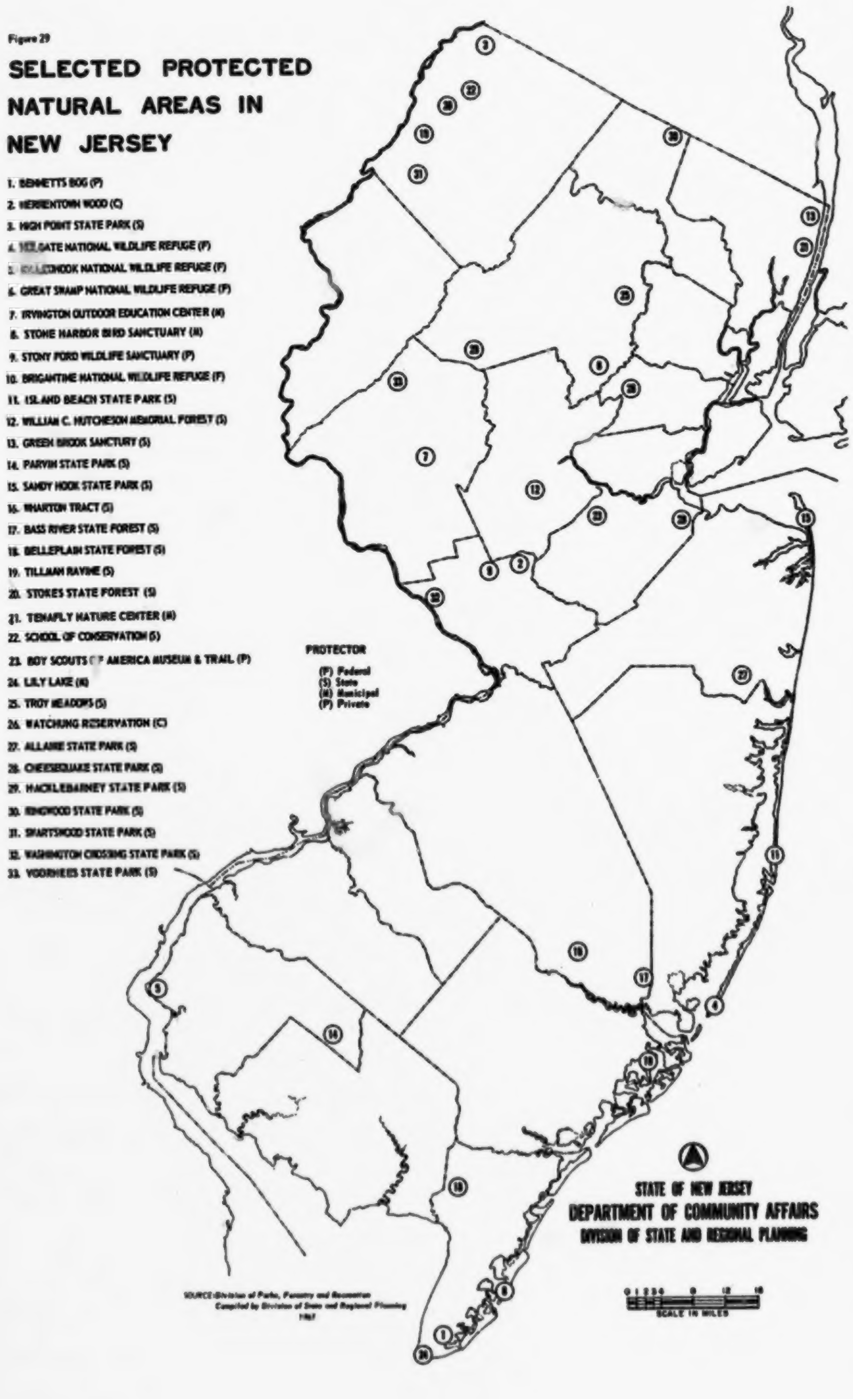
The responsibility of maintaining wildlife refuges in New Jersey has fallen mainly to Fish and Game, the Federal government and private groups such as the National Audubon Society. However, the majority of New Jersey's State Parks also serve as wildlife refuges since hunting is restricted.

As of January, 1964 four National Wildlife Refuges, totalling 14,278 acres, are currently maintained by the Federal government for wildlife. Forty percent of this land can be hunted.

It is the general conclusion of the monograph entitled *Fishery and Wildlife Resources in New Jersey* that (although a significant number of acres have been set aside for the protection of wildlife) a number of areas, particularly along the major flyways, should be management areas protected through governmental or private acquisition.

Figure 29

SELECTED PROTECTED NATURAL AREAS IN NEW JERSEY


1. BENNETTS BOG (P)
2. HERRONTOWN WOOD (C)
3. HIGH POINT STATE PARK (S)
4. HOLGATE NATIONAL WILDLIFE REFUGE (F)
5. KILLCOHOOK NATIONAL WILDLIFE REFUGE (F)
6. GREAT SWAMP NATIONAL WILDLIFE REFUGE (F)
7. IRVINGTON OUTDOOR EDUCATION CENTER (M)
8. STONE HARBOR BIRD SANCTUARY (M)
9. STONY FORD WILDLIFE SANCTUARY (P)
10. BRIGANTINE NATIONAL WILDLIFE REFUGE (F)
11. ISLAND BEACH STATE PARK (S)
12. WILLIAM C. HUTCHESON MEMORIAL FOREST (S)
13. GREEN BROOK SANCTURY (S)
14. PARVIN STATE PARK (S)
15. SANDY HOOK STATE PARK (S)
16. WHARTON TRACT (S)
17. BASS RIVER STATE FOREST (S)
18. BELLEPLAIN STATE FOREST (S)
19. TILLMAN RAVINE (S)
20. STOKES STATE FOREST (S)
21. TENAFLY NATURE CENTER (M)
22. SCHOOL OF CONSERVATION (S)
23. BOY SCOUTS OF AMERICA MUSEUM & TRAIL (P)
24. LILY LAKE (M)
25. TROY MEADOWS (S)
26. WATCHUNG RESERVATION (C)
27. ALLAIRE STATE PARK (S)
28. CHEESEQUAKE STATE PARK (S)
29. HACKLEBARNEY STATE PARK (S)
30. RINGWOOD STATE PARK (S)
31. SWARTSWOOD STATE PARK (S)
32. WASHINGTON CROSSING STATE PARK (S)
33. VOORHEES STATE PARK (S)
PROTECTOR
(F) Federal
(S) State
(M) Municipal
(P) Private
STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING
0 1 2 3 4 8 12 16
SCALE IN MILES

SOURCE: Division of Parks, Forestry and Recreation
Compiled by Division of State and Regional Planning
1967

AGRICULTURE

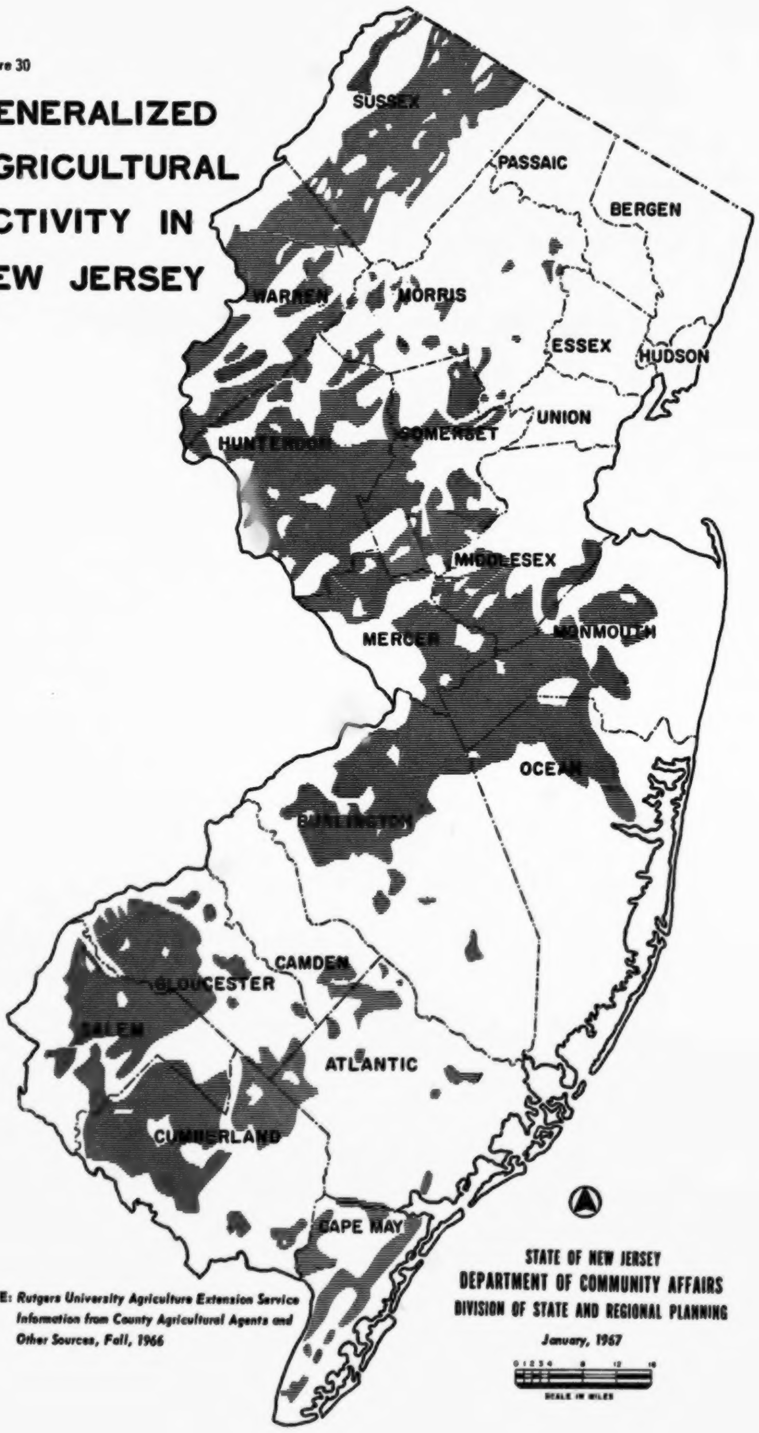


Figure 30

GENERALIZED AGRICULTURAL ACTIVITY IN NEW JERSEY

SOURCE: *Rutgers University Agriculture Extension Service Information from County Agricultural Agents and Other Sources, Fall, 1966*

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING
January, 1967

AGRICULTURE. New Jersey has witnessed the disappearance of thousands of acres of agricultural lands as a result of suburban expansion and is now witnessing this process at an alarming rate of speed. Not only is agriculture important to the economy of the State, but its value as a form of open space may (in the long run) be equally significant.

Certain areas of the State, because of their soil qualities, lend themselves to a high level of agricultural productivity. A circular put out by the College of Agriculture at Rutgers entitled *New Jersey Soils* attempts to portray a general picture of the major kinds of soils in New Jersey and indicate their agricultural potential, limiting properties, and desirable features. Many people feel that it is essential that an effort be made to insure the continued use of those remaining prime agricultural soils for growing crops, etc.

While the continued loss of agricultural lands in some areas appears to be inevitable, there should be a continuation of agriculture in conjunction with other open space needs. Agriculture's perpetuation as a facet of open space would seem highly desirable. The need for scenic easements along highways might be combined with a program to maintain agricultural productivity in certain areas. Also, agricultural lands used on a part-time basis for public hunting, fishing, or picnicking would add significantly to our supply of recreation potentials. Various measures to insure the retention of agricultural lands as open space, such as easements and tax relief for farmers, are currently being explored.

NATURAL RESOURCES

FOREST. The forest land in New Jersey (one of the State's largest resources) totals about 2,200,000 acres and covers 46 percent of the land area of the State. Private ownership accounts for 88 percent of this forest land, with most of the woodlots ranging in size from 100 acres to 5,000 acres. The State-owned forests account for another 11 percent, and the Federal government possesses the remaining 1 percent.

Due to the growing popularity of camping, hiking, hunting, fishing, and canoeing, the recreation potential of both publicly and privately owned forests has just begun to be tapped. According to the monograph *The Forest Resource in New Jersey*, an active program of planning must be initiated to develop these resources where appropriate, make more areas available to the public and to provide adequate access to these areas. Planning should also be instituted to integrate the forests into the land use pattern, especially in terms of recreation.

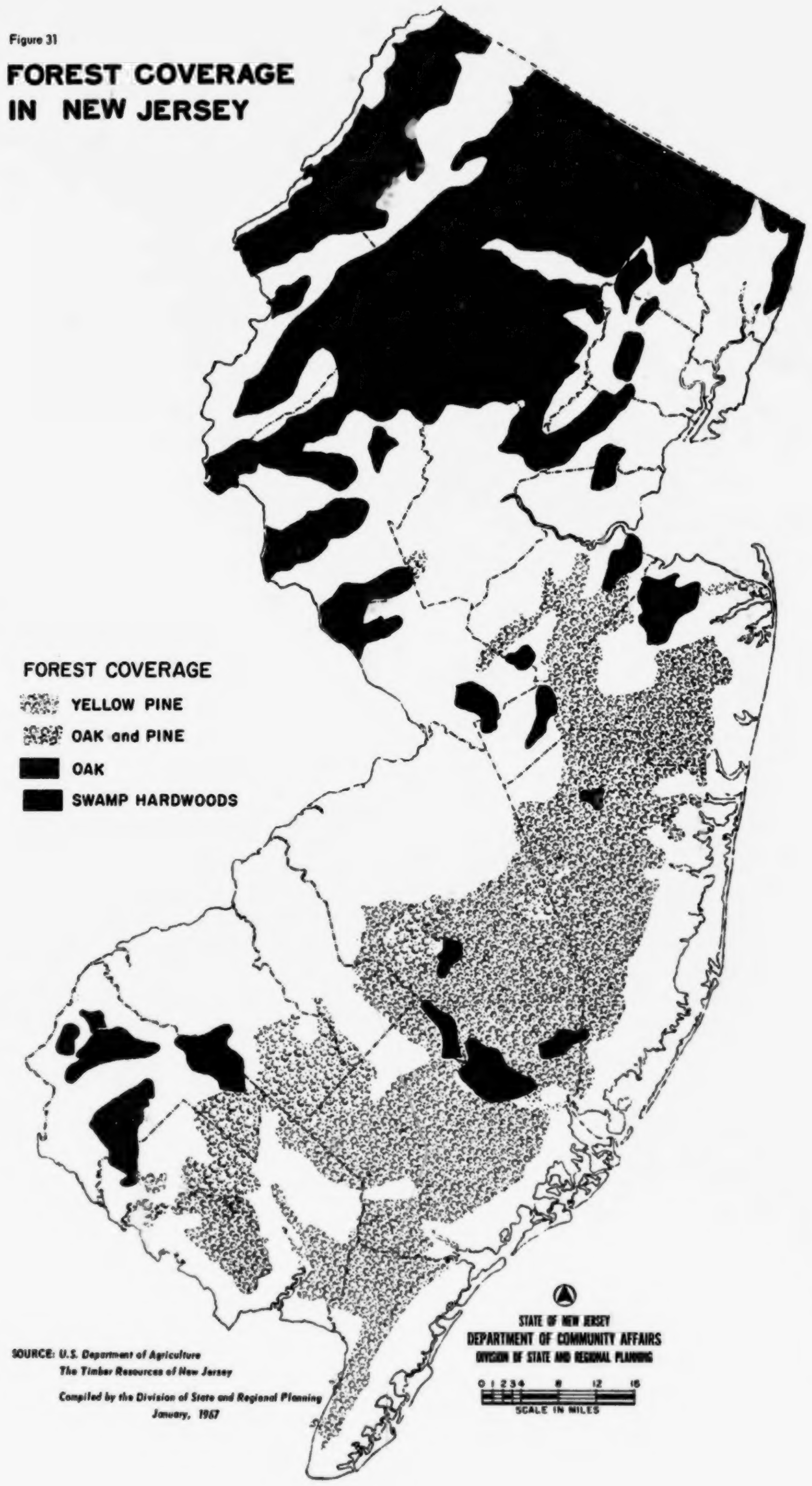


Figure 31

FOREST COVERAGE IN NEW JERSEY

FOREST COVERAGE
YELLOW PINE
OAK and PINE
OAK
SWAMP HARDWOODS
STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING
0 1 2 3 4 8 12 16
SCALE IN MILES

SOURCE: *U.S. Department of Agriculture*
The Timber Resources of New Jersey

Compiled by the Division of State and Regional Planning
January, 1967

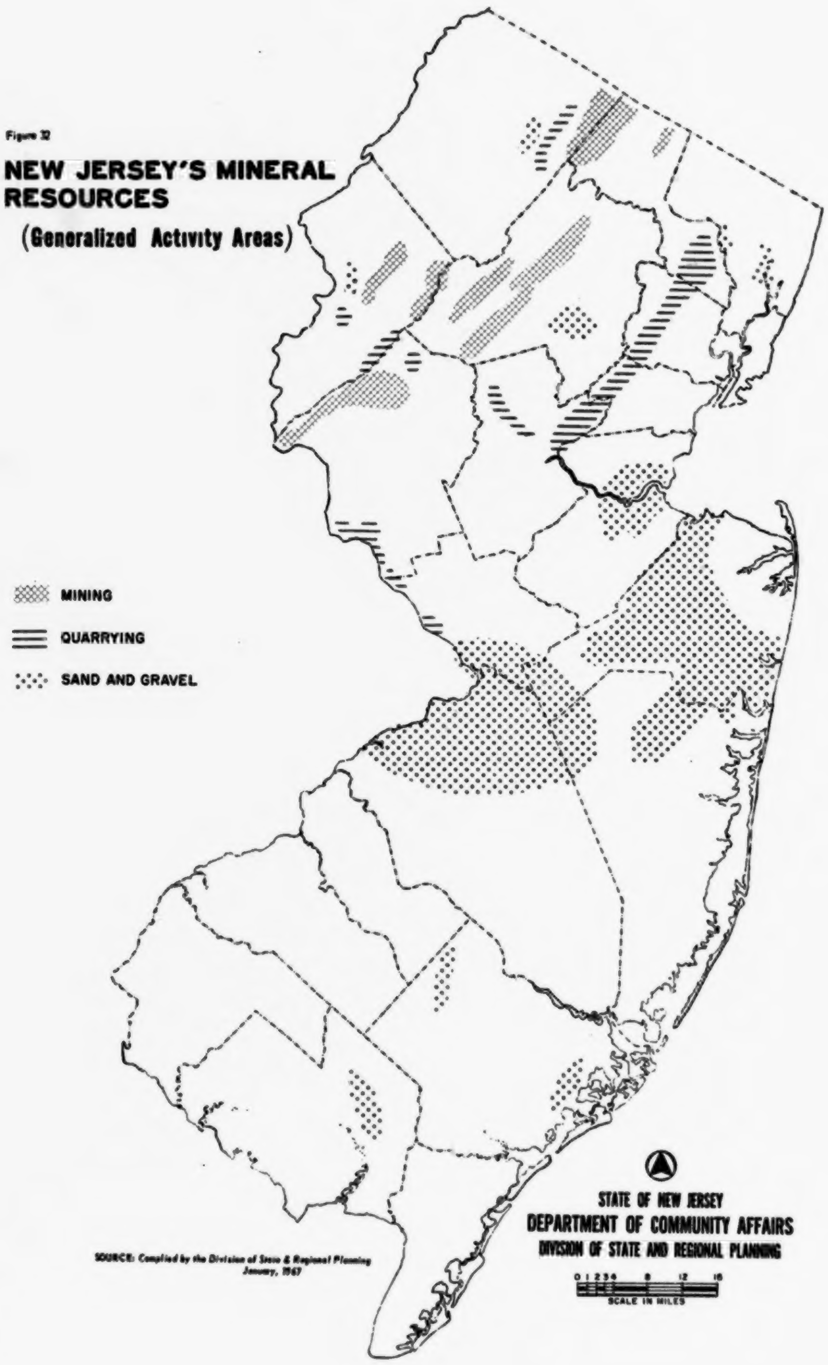


Figure 32

NEW JERSEY'S MINERAL RESOURCES

(Generalized Activity Areas)

SOURCE: Compiled by the Division of State & Regional Planning
January, 1967

STATE OF NEW JERSEY
DEPARTMENT OF COMMUNITY AFFAIRS
DIVISION OF STATE AND REGIONAL PLANNING

MINERALS. Mineral sites and extractive industrial locations are important in relation to open land uses. In considering the future of the extractive operations and untapped mineral sites (such as stone, sand and gravel) consideration must be given to the economic significance of the industry and attention must be given to planning the future use of depleted sites. Mineral extractive sites represent an important potential for open space and recreation if early consideration is given to future type of use, etc.

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